



国家能源集团  
CHN ENERGY

國電科技環保集團股份有限公司

GUODIAN TECHNOLOGY & ENVIRONMENT GROUP CORPORATION LIMITED\*

(於中華人民共和國註冊成立的股份有限公司)  
(a joint stock limited liability company incorporated in the People's Republic of China)

Stock Code 股份代號 : 01296  
www.khjt.com.cn



2021

ANNUAL REPORT  
年度報告

\*For identification purpose only  
僅供識別

# TOP 10 MILESTONES OF GUODIAN TECH 2021

## 國電科環2021年度十大新聞



1

2021年1月，能源技術聯合主導編寫的IEC標準《火焰檢測器技術規範》正式發佈，成為火焰監測器相關的首個國際標準。

In January 2021, IEC standard *Technical Specification for Flame Detector* jointly compiled by Longyuan Technology was officially released, becoming the first international standard of flame detectors.



2

2021年8月25日，中央企業黨史學習教育第三指導組到本集團調研，高度評價了本集團黨委書記、董事長陳冬青的相關報告。

On 25 August 2021, the Third Steering Group of Party History Study and Education of Central Enterprises came to the Group for survey, and spoke highly of relevant reports of Chen Dongqing, Secretary of the Party Committee and Chairman of the Group.



3

2021年9月18日，能源環保牽頭實施的國家固廢重大專項“廢棄環境催化劑金屬回收和載體再用技術研發及工業示範”順利通過國家科技部中期檢查。

On 18 September 2021, national solid waste major project "R&D and Industrial Demonstration of Waste Environmental Catalyst Metal Recovery and Carrier Recycling Technology" which was implemented under the leadership of Longyuan Environmental smoothly passed the medium-term inspection of the Ministry of Science and Technology.



4

2021年9月23日，國能信控舉行混改增資項目簽約儀式，為國能信控早日登陸資本市場奠定了堅實基礎。各投資方代表均出席。

On 23 September 2021, Guoneng I&C held the signing ceremony of mixed-ownership reform and capital increase project, which laid a solid foundation for Guoneng I&C to be listed early. The representatives of all investors attended the ceremony.



5

2021年10月12日，龍源技術承接的勝利電廠項目1號機組成功通過168小時滿負荷試運，正式投入商業運營，標誌著該公司研發的高水份褐煤大功率等離子無油點火技術獲得成功應用，填補了國內火電行業技術空白。

On 12 October 2021, Unit 1 of Shengli Power Plant project undertaken by Longyuan Technology successfully passed 168h full-load commissioning and was officially put into commercial operation, marking the successful application of high-power plasma oil-free ignition technology of high moisture lignite developed by the Company, and filling in the technology gap of thermal power industry in China.



6

2021年12月13日，應用朗新明自主開發的L-ECD(朗新明電解製氣)技術的國能北侖第一發電有限公司全廠脫硫廢水資源化綜合利用項目通過168小時試運行，該項目是目前國內最大的脫硫廢水資源化項目。

On 13 December 2021, the comprehensive desulfurization wastewater utilization project of Guoneng Beilun First Power Generation Co., Ltd. in which L-ECD (Lucency-Electro-Chloride-Desinfecting) independently developed by Lucency passed 168h commissioning. The project is currently the largest desulfurization wastewater recycling project in China.



7

2021年12月27日，應用國能智深全國產自主可控智能分散控制系統(iDCS)的國電電力雙維上海廟2×1000MW超超臨界間冷機組1號機一次順利通過168小時試運行並投產。這是該系統國內首次成功應用在1000MW超超臨界大型燃煤間冷機組，也是全國產DEH(汽輪機數字電液調節系統)的首次應用。

On 27 December 2021, 2×1000MW Ultra-supercritical Intercooling Unit 1 of Guodian Shuangwei Shanghaimeiao which applies the autonomous and controllable intelligent decentralized control system distributed control system (iDCS) of Guoneng Zhishen smoothly passed 168h commissioning and was put into production. This is the first successful application of the system in 1000MW ultra-supercritical large coal-fired intercooling unit in China, and also the first application of DEH (Digital Electro-Hydraulic) completely home-made.



8

2021年12月27日獲悉，龍源節能獲評中國節能協會工業領域綜合能力最高等級評價[5A]級證書，標誌著該公司的節能綜合服務能力邁上新台階。

On 27 December 2021, Longyuan Energy Conservation was awarded "5A" certificate by China Energy Conservation Association - the highest grade of comprehensive capability in industry, marking a milestone of its comprehensive energy saving service capability.



9

2021年12月31日，國電科環與寶山鋼鐵股份有限公司簽署戰略合作協議。此前，科環集團已分別與烏海市、航天雲網等12個政府、企業簽訂框架協議，推動雙方企業高質量發展，實現互利共贏。

On 31 December 2021, Guodian Tech and Baoshan Iron & Steel Co., Ltd. signed a strategic cooperation agreement. Previously, Guodian Tech had signed a framework agreements separately with 12 governments and enterprises, such as Wuhai City and CASI Cloud, promoting high-quality development of both parties and achieving a win-win result.



10

2021年，本集團110餘個在建項目均未發生重傷及以上人身傷害事故。截止2021年12月31日，本集團實現連續安全生產922天。

In 2021, no personal injury accident of serious injury or above happened in over 110 projects under construction of the Group. As of 31 December 2021, the Group had achieved safe production for 922 consecutive days.

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# CORPORATE INFORMATION

## 公司資料

### DIRECTORS

#### Executive Directors<sup>(1)</sup>

Mr. CHEN Dongqing (*Chairman*)  
Mr. LI Caiyun (*General Manager*)

#### Non-executive Directors<sup>(2)</sup>

Mr. SONG Chang  
Mr. JIANG Jianwu  
Mr. ZHANG Wenjian  
Mr. GU Yuchun  
Ms. GE Xiaojing

#### Independent Non-executive Directors

Mr. SHEN Xiaoliu  
Mr. QU Jiuwei  
Mr. XIE Qiuye  
Mr. YEUNG Chi Tat

### SUPERVISORS<sup>(3)</sup>

Mr. LUAN Baoxing (*Chairman*)  
Ms. CHEN Jing  
Mr. WANG Shaoyu  
Mr. LI Wei  
Mr. KONG Defang

### LEGAL ADVISORS

#### International

King & Wood Mallesons  
13/F, Gloucester Tower  
The Landmark  
15 Queen's Road Central  
Central, Hong Kong

#### PRC

King & Wood Mallesons  
20/F, East Tower, World Financial Center  
1 Dongsanhuan Zhonglu  
Chaoyang District, Beijing, PRC

### 董事

#### 執行董事<sup>(1)</sup>

陳冬青先生 (*主席*)  
李彩雲先生 (*總經理*)

#### 非執行董事<sup>(2)</sup>

宋暢先生  
江建武先生  
張文建先生  
顧玉春先生  
葛曉菁女士

#### 獨立非執行董事

申曉留先生  
曲久輝先生  
謝秋野先生  
楊志達先生

### 監事<sup>(3)</sup>

樂寶興先生 (*主席*)  
陳靜女士  
王少玉先生  
李偉先生  
孔德方先生

### 法律顧問

#### 國際

金杜律師事務所  
香港中環  
皇后大道中15號  
置地廣場告羅士打大廈13樓

#### 中國

金杜律師事務所  
中國北京市朝陽區  
東三環中路1號  
環球金融中心辦公樓東樓20層

## CORPORATE INFORMATION (CONTINUED) 公司資料(續)

### AUDITORS

#### International

Ernst & Young  
Certified Public Accountants  
27/F, One Taikoo Place  
979 King's Road  
Quarry Bay, Hong Kong

#### PRC<sup>(4)</sup>

BDO China Shu Lun Pan Certified Public Accountants  
(Limited Liability Partnership)  
Tower A, China Overseas International Center  
Building 7, Yard 5, Anding Road,  
Chaoyang District, Beijing, PRC

### COMPANY SECRETARY<sup>(5)</sup>

Ms. NG Sau Mei

### AUTHORIZED REPRESENTATIVES

Mr. CHEN Dongqing  
Ms. NG Sau Mei

### LEGAL ADDRESS

Suite 1101, 11/F, Building 1  
Yard 16, W.4th Ring Middle Road  
Haidian District, Beijing, PRC

### HEAD OFFICE IN THE PRC

Building 1  
Yard 16, W.4th Ring Middle Road  
Haidian District, Beijing, PRC

### PRINCIPAL PLACE OF BUSINESS IN HONG KONG

31/F, Tower Two, Times Square  
1 Matheson Street, Causeway Bay  
Hong Kong

### 核數師

#### 國際

安永會計師事務所  
執業會計師  
香港鰂魚涌  
英皇道979號  
太古坊一座27樓

#### 中國<sup>(4)</sup>

立信會計師事務所  
(特殊普通合伙)  
北京市朝陽區  
安定路5號院7號樓  
中海國際中心A座

### 公司秘書<sup>(5)</sup>

伍秀薇女士

### 授權代表

陳冬青先生  
伍秀薇女士

### 法定地址

中國北京市海淀區  
西四環中路16號院  
1號樓11層1101室

### 中國主要辦事處

中國北京市海淀區  
西四環中路16號院  
1號樓

### 香港主要營業地點

香港  
銅鑼灣勿地臣街1號  
時代廣場二座31樓

## CORPORATE INFORMATION (CONTINUED)

### 公司資料(續)

#### NOMINATION COMMITTEE

Mr. XIE Qiuye (*Chairman*)  
Mr. QU Jiuhui  
Mr. JIANG Jianwu

#### AUDIT COMMITTEE

Mr. YEUNG Chi Tat (*Chairman*)  
Mr. SHEN Xiaoliu  
Mr. ZHANG Wenjian

#### REMUNERATION AND APPRAISAL COMMITTEE

Mr. QU Jiuhui (*Chairman*)  
Mr. XIE Qiuye  
Mr. SONG Chang

#### STRATEGIC COMMITTEE

Mr. CHEN Dongqing (*Chairman*)  
Mr. SHEN Xiaoliu  
Mr. GU Yuchun  
Ms. GE Xiaojing  
Mr. LI Caiyun

#### H SHARE REGISTRAR

Computershare Hong Kong Investor Services Limited

#### WEBSITE ADDRESS

<http://www.khjt.com.cn/khjtwwEn>

#### PRINCIPAL BANKS

Industrial and Commercial Bank of China Limited  
(Beijing Cuiwei Road Sub-branch)  
Bank of Communications Co., Ltd. (Hong Kong Branch)

#### 提名委員會

謝秋野先生 (*主席*)  
曲久輝先生  
江建武先生

#### 審計委員會

楊志達先生 (*主席*)  
申曉留先生  
張文建先生

#### 薪酬與考核委員會

曲久輝先生 (*主席*)  
謝秋野先生  
宋暢先生

#### 戰略委員會

陳冬青先生 (*主席*)  
申曉留先生  
顧玉春先生  
葛曉菁女士  
李彩雲先生

#### H股證券登記處

香港中央證券登記有限公司

#### 網址

<http://www.khjt.com.cn/khjtww>

#### 主要往來銀行

中國工商銀行股份有限公司  
(北京翠微路支行)  
交通銀行股份有限公司(香港分行)

## CORPORATE INFORMATION (CONTINUED)

### 公司資料(續)

#### Notes :

- (1) With effect from 23 April 2021, Mr. TANG Chaoxiong ceased to be an executive director, a member of the nomination committee, a deputy general manager and a chief accountant of the Company due to his transfer. For details, please refer to the announcement of the Company dated 23 April 2021.

With effect from 2 June 2021, Mr. ZHANG Jun ceased to be an executive director, a member of the strategic committee and the general manager of the Company due to his transfer. For details, please refer to the announcement of the Company dated 2 June 2021.

Mr. LI Caiyun was elected as the general manager of the Company on 30 June 2021, and an executive director of the Company at the second extraordinary general meeting of the Company held on 19 October 2021 and will hold office until the expiration of the term of the fourth session of the Board of Directors. Subsequently, Mr. LI was elected as a member of the strategic committee of the Board of Directors at the Seventeenth Meeting of the Fourth Board of Directors held on 6 December 2021. For details, please refer to the announcements of the Company dated 30 June 2021, 19 October 2021 and 6 December 2021.

- (2) Due to his retirement, Mr. WANG Zhongqu has tendered his resignation in respect of his roles as a non-executive Director and a member of the remuneration and appraisal committee of the Company with effect from 20 October 2021. For details, please refer to the announcement of the Company dated 20 October 2021.

Mr. SONG Chang was elected as a non-executive director of the Company at the Company's 2020 Annual General Meeting held on 30 June 2021 and will hold office until the expiration of the term of the fourth session of the Board of Directors. Subsequently, Mr. SONG was elected as a member of the remuneration and appraisal committee of the Board of Directors at the Seventeenth Meeting of the Fourth Board of Directors held on 6 December 2021. For details, please refer to the announcements of the Company dated 30 June 2021 and 6 December 2021.

Mr. JIANG Jianwu was elected as a non-executive director and a member of the nomination committee of the Company at the Third Extraordinary General Meeting of the Company held on 28 December 2021 and will hold office until the expiration of the term of the fourth session of the Board of Directors. For details, please refer to the announcement of the Company dated 28 December 2021.

#### 附註：

- (1) 因工作調動，自2021年4月23日起，唐超雄先生不再擔任本公司執行董事、提名委員會成員、副總經理及總會計師職務。有關詳情，請參閱本公司日期為2021年4月23日的公告。

因工作調動，自2021年6月2日起，張軍先生不再擔任本公司執行董事、戰略委員會成員及總經理職務。有關詳情，請參閱本公司日期為2021年6月2日的公告。

李彩雲先生於2021年6月30日委任為本公司總經理，並於本公司2021年10月19日召開的2021年第二次臨時股東大會上獲選舉為本公司執行董事，任期至第四屆董事會任期屆滿。其後，李先生於2021年12月6日召開的第四屆董事會2021年第十七次會議上被選舉為董事會戰略委員會委員。有關詳情請參閱本公司日期為2021年6月30日、2021年10月19日及2021年12月6日的公告。

- (2) 因達到退休年齡，自2021年10月20日起，王忠渠先生不再擔任本公司非執行董事及薪酬與考核委員會成員職務。有關詳情，請參閱本公司日期為2021年10月20日的公告。

宋暢先生於本公司2021年6月30日召開的2020年股東週年大會上獲選舉為本公司非執行董事，任期至第四屆董事會任期屆滿。其後，宋先生於2021年12月6日召開的第四屆董事會2021年第十七次會議上被選舉為董事會薪酬與考核委員會委員。有關詳情請參閱本公司日期為2021年6月30日及2021年12月6日的公告。

江建武先生於本公司2021年12月28日召開的2021年第三次臨時股東大會上獲選舉為本公司非執行董事及提名委員會委員，任期至第四屆董事會任期屆滿。有關詳情請參閱本公司日期為2021年12月28日的公告。

## CORPORATE INFORMATION (CONTINUED)

### 公司資料(續)

- (3) With effect from 25 May 2021, Mr. XU Xingzhou ceased to be a supervisor of the Company due to his retirement. For details, please refer to the announcement of the Company dated 25 May 2021.

With effect from 15 November 2021, Ms. QIN Xiangling ceased to be a supervisor of the Company due to work adjustment. For details, please refer to the announcement of the Company dated 15 November 2021.

Ms. CHEN Jing was elected as a supervisor of the Company at the Company's 2020 Annual General Meeting held on 30 June 2021 and will hold office until the expiration of the term of the fourth session of the Board of Supervisors. For details, please refer to the announcement of the Company dated 30 June 2021.

Mr. KONG Defang was elected as a supervisor of the Company at the preparatory employee representative meeting held on 19 January 2022. After the expiration of the public review period of 5 working days (from 19 January 2022 to 25 January 2022), Mr. KONG was duly elected as a supervisor of the Company and will hold office until the expiration of the term of the fourth session of the Board of Supervisors. For details, please refer to the announcement of the Company dated 26 January 2022.

- (4) The term of office of ShineWing Certified Public Accountants LLP expired at the conclusion of the Company's 2020 annual general meeting, and BDO China Shu Lun Pan Certified Public Accountants LLP was appointed as the Company's PRC auditor at the first extraordinary general meeting of the Company held on 21 January 2022. For details, please refer to the announcement of the Company dated 21 January 2022.

- (5) With effect from 22 January 2021, Mr. CAI Zhaowen ceased to be vice president, board secretary, a joint company secretary and chief legal counsel of the Company due to work adjustment. For details, please refer to the announcement of the Company dated 22 January 2021.

With effect from 28 December 2021, Mr. LEE Kwok Fai Kenneth ceased to be a company secretary of the Company and an authorized representative of the Company due to other work adjustment. Ms. NG Sau Mei was appointed as a company secretary of the Company and an authorized representative of the Company at the Eighteenth Meeting of the Fourth Board of Directors of the Company held on 28 December 2021. For details, please refer to the announcement of the Company dated 28 December 2021.

- (3) 因達到退休年齡，自2021年5月25日起，許興洲先生不再擔任本公司監事。有關詳情，請參閱本公司日期為2021年5月25日的公告。

因工作調整，自2021年11月15日起，秦湘靈女士不再擔任本公司監事。有關詳情，請參閱本公司日期為2021年11月15日的公告。

陳靜女士於本公司2021年6月30日召開的2020年股東週年大會上獲選舉為本公司監事，任期至第四屆監事會任期屆滿。有關詳情請參閱本公司日期為2021年6月30日的公告。

本公司於2022年1月19日召開職工代表大會預備會選舉為孔德方先生為本公司監事，經5個工作日(2022年1月19日至2022年1月25日)的公示期滿，孔先生正式當選為本公司監事，任期至第四屆監事會任期屆滿。有關詳情請參閱本公司日期為2022年1月26日的公告。

- (4) 信永中和會計師事務所(特殊普通合夥)的任期已於本公司2020年度股東週年大會結束時屆滿，立信會計師事務所(特殊普通合夥)於本公司2022年1月21日召開的2022年第一次臨時股東大會上獲委任為本公司中國核數師。有關詳情請參閱本公司日期為2022年1月21日的公告。

- (5) 因工作調動，蔡兆文先生於2021年1月22日辭去本公司副總經理、董事會秘書、聯席公司秘書及總法律顧問職務，有關詳情請參閱本公司日期為2021年1月22日的公告。

因其他工作安排，李國輝先生於2021年12月28日辭去本公司公司秘書及授權代表職務。伍秀薇女士於本公司2021年12月28日召開的第四屆董事會2021年第十八次會議上獲選舉為本公司公司秘書及授權代表。有關詳情請參閱本公司日期為2021年12月28日的公告。



# CORPORATE PROFILE

## 公司介紹

Guodian Technology & Environmental Group Corporation Limited (the “**Company**” or “**Guodian Tech**”), formerly known as Guodian Technology & Environment Group Co., Ltd., was officially converted to a joint stock company on 16 May 2011, listed on the Main Board of the Stock Exchange of Hong Kong Ltd. (the “**Stock Exchange**”) on 30 December 2011. The principal businesses of the Company, together with its subsidiaries (the “**Group**”), are carried out under two businesses, namely, the business of environmental protection and energy conservation solutions, and the business of renewable energy equipment manufacturing and services. The Group, with its advanced technologies and diversified business models, is a leading market player in the PRC in these industries. In addition, the Group has successively been selected for Global TOP 500 New Energy Enterprises for ten consecutive years since 2012.

In its environmental protection and energy conservation solutions business, the Group is the largest supplier of technology and integrated systems solutions to coal-fired power plants in the PRC, providing innovative and advanced technology designed to reduce pollutant emissions and to maximize efficiency of resource utilization, with the overall objective of reducing the environmental impacts of coal-fired electricity generation while maximizing cost-efficiency and profitability for its customers. Leveraging on its comprehensive environmental protection and energy conservation technologies and solutions for all aspects of coal-fired power plants (with the core business as desulfurization, denitrification, water treatment, plasma ignition and general contracting for power stations), the Group is capable of providing one-stop solutions for its customers that are tailored to meet their specific needs. In the business of renewable energy equipment manufacturing and services, the Group also produces wind turbine generators (“**WTGs**”), pitch systems, inverters and other key components, and provides maintenance and repair services of WTGs.

Focusing on technological innovation and industrial applications, the Group has gained a number of innovative achievements in relation to significant technology and product innovation through original creation, resource integration innovation and technological advancements. Among its leading technologies in the PRC and globally, the Group’s plasma ignition technology is ranked first in the world. In the domestic market, the Group possesses a leading position in many technologies, including wet flue gas desulfurization, seawater desulfurization, boiler low-nitrogen combustion and flue gas denitrification. Beijing Guodian Longyuan Environmental Engineering Co., Ltd. (“**Longyuan Environmental**”), Yantai Longyuan Power Technology Co., Ltd. (“**Longyuan Technology**”) (SZ.300105), Guoneng I&C Interconnection Technology Co., Ltd. (“**Guoneng I&C**”) and Guoneng Zhishen Control Technology Co., Ltd. (“**Guoneng Zhishen**”) have become well-known brand names in the PRC.

國電科技環保集團股份有限公司(「**本公司**」或「**國電科環**」)，前身為國電科技環保集團有限公司，於2011年5月16日正式改制成為股份有限公司並於2011年12月30日在香港聯合交易所有限公司(「**聯交所**」)主板上市。本公司及附屬公司(「**本集團**」)之主營業務分為兩部分，即環保節能解決方案業務和可再生能源設備製造及服務業務。本集團憑藉其先進的技術和多元化的業務模式躋身於國內行業領先地位。從2012年至今，本集團連續十年入選全球新能源企業500強。

於環保節能解決方案業務方面，本集團為中國最大的燃煤電廠技術及集成系統解決方案供貨商，提供為減少污染物排放及提升資源利用效率而設計的創新和先進的技術，整體目標為減低燃煤發電相關的環境影響，以及提升其客戶的成本效益及盈利能力。憑藉其為燃煤電廠提供的全方面綜合環保節能技術及解決方案(核心業務為脫硫、脫硝、水處理、等離子體點火及電站建設總承包)，本集團能為其客戶提供「一站式」的解決方案，量身訂製滿足其客戶的特定需要。於可再生能源設備製造及服務業務方面，本集團亦生產風力發電機組(「**風機**」)、變槳系統及變流器等關鍵部件，並提供風機保養及維修業務。

本集團專注於科技創新和產業化應用，通過原始創新、資源集成創新與技術引進並再創新，取得了一大批科技創新成果，有多項技術達到國際、國內領先水平，其中本集團的等離子體點火技術水準居世界第一位，本集團的煙氣濕法脫硫、海水脫硫、鍋爐燃燒降氮、煙氣脫硝技術始終保持國內領先地位，北京國電龍源環保工程有限公司(「**龍源環保**」)、煙台龍源電力技術股份有限公司(「**龍源技術**」)(SZ.300105)、國能信控互聯技術有限公司(「**國能信控**」)、國能智深控制技術有限公司(「**國能智深**」)已成為享譽中國的知名品牌。

## CORPORATE PROFILE (CONTINUED)

### 公司介紹(續)

As of 31 December 2021, the Group has had 2 state-level scientific research platforms including the “State-Accredited Enterprise Technology Center of Longyuan Technology”, 9 provincial-level scientific research platforms, one postdoctoral research center and one academician & expert workstation. The Group has undertaken 114 on-going scientific research and development (“**R&D**”) projects, of which 4 are approved by national ministries, or provincial or municipal governments. In the year ended 31 December 2021 (the “**Reporting Year**”), the Group was granted 364 patents, including 77 for inventions, gaining absolute advantages in the industry.

The Company believes that its key strategy of investing in and promoting technology research and development as a core activity to support the Company’s diversified business has yielded significant returns, which has enabled the Company to maintain its dominant position as a technology leader in the environmental protection, energy conservation and renewable energy industries; which also enabled the Company to develop innovative, practical, cost-saving solutions and technology application as well as high quality products in the relevant industries. The Company also believes that these sectors will play a key role in the sustainable development of China’s energy and power industries, and that sustainable development of energy is an integral part of China’s sustainable economic development. Looking forward, the Company will strive to become a world-class professional technology and environmental protection company and leverage its business in China to expand into international markets.

截至2021年12月31日，本集團擁有「龍源技術國家級企業技術中心」等2個國家級科研平台、9個省部級科研平台、1個博士後科研工作站及1個院士專家工作站。本集團承擔持續科研開發(「**研發**」)項目共計114項，其中國家部委、省市等立項在研科技項目共計4項。2021年全年(「**報告年度**」)，獲得專利授權共計364項，其中發明專利77項，在行業對標中佔據絕對優勢。

本公司相信，以投資和促進技術研發作為核心活動來支持本公司多元化業務的重點戰略已經得到了重大回報；使其能夠保持在環保、節能和可再生能源行業中技術領先的主導地位；使其研發出在相關行業中具有創新性、實用性、節約成本的解決方案和技術應用以及高質量的產品。本公司也相信，這些行業將對中國能源及電力產業的可持續發展起到關鍵作用，而能源的可持續發展又是中國經濟可持續發展不可或缺的部份。展望未來，本公司將以成為世界一流水平的專業化科技環保公司為目標，力爭充分利用其在中國的業務拓展國際市場。

# FIVE YEARS FINANCIAL SUMMARY

## 五年財務概要

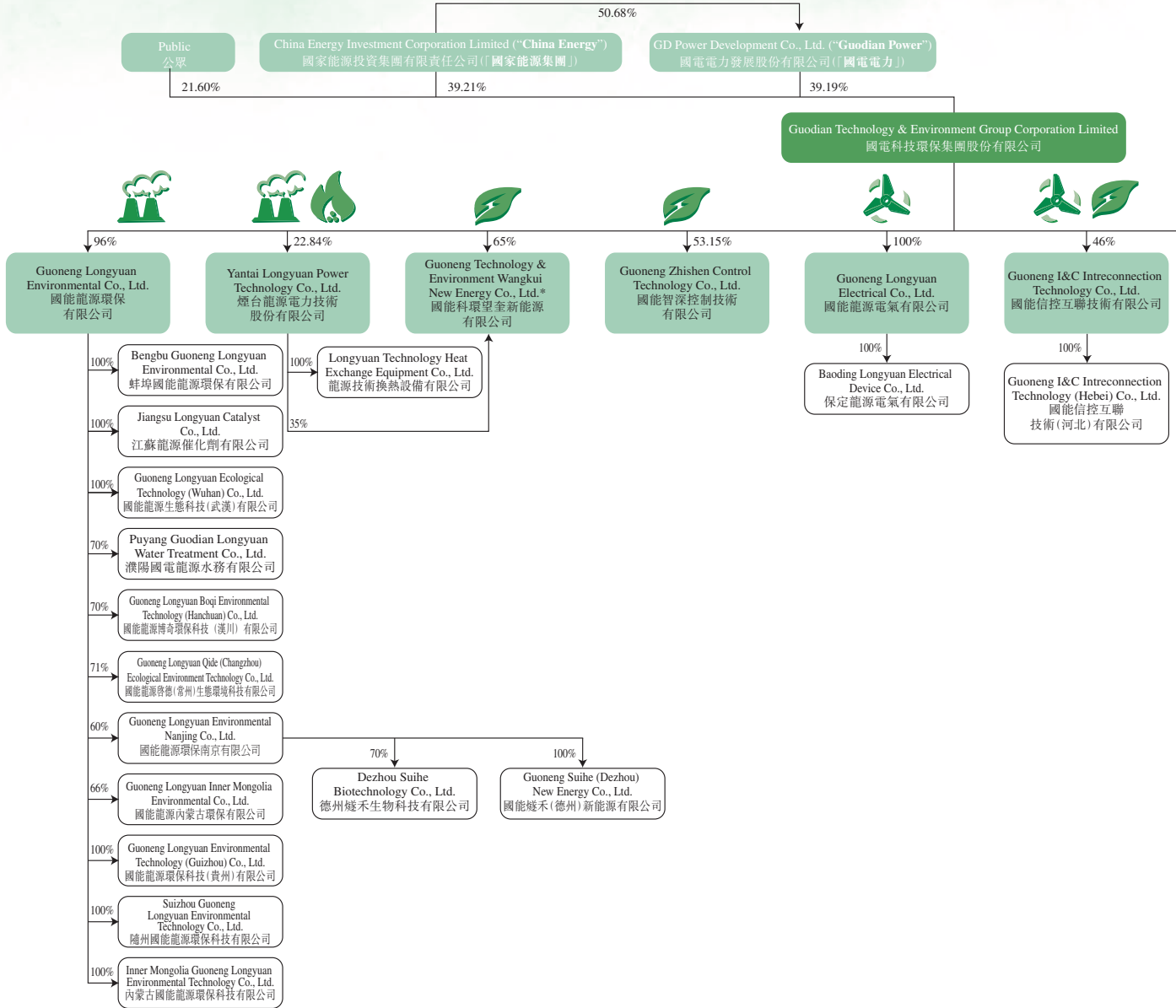
		2017 RMB'000 人民幣千元 (restated) (重述)	2018 RMB'000 人民幣千元	2019 RMB'000 人民幣千元	2020 RMB'000 人民幣千元	2021 RMB'000 人民幣千元
<b>Continuing operations</b>	<b>持續經營業務</b>					
Revenue	收益	11,703,002	11,411,780	11,691,038	15,624,478	<b>12,073,257</b>
Profit/(loss) before taxation from continuing operations	來自持續經營業務之稅前利潤/(虧損)	627,415	-59,661	-149,515	204,935	<b>-1,101,941</b>
Income tax	所得稅	-180,936	16,965	-297,537	-249,368	<b>-107,715</b>
Profit/(loss) for the year from continuing operations	本年來自持續經營業務之利潤/(虧損)	446,479	-42,696	-447,052	-44,433	<b>-1,209,656</b>
<b>Discontinued operation</b>	<b>已終止經營業務</b>					
(Loss)/profit for the year from a discontinued operation	本年來自已終止經營業務(虧損)/利潤	-355,709	155,059	-	-	-
Profit/(loss) for the year	本年收益/(虧損)	90,770	112,363	-447,052	-44,433	<b>-1,209,656</b>
<b>Attributable to:</b>	<b>歸屬於:</b>					
Equity shareholders of the Company	本公司權益股東	43,703	114,087	-289,688	57,123	<b>-839,574</b>
Non-controlling interests	非控股權益	47,067	-1,724	-157,364	-101,556	<b>-370,082</b>
<b>Profit/(loss) for the year</b>	<b>本年收益/(虧損)</b>	90,770	112,363	-447,052	-44,433	<b>-1,209,656</b>
<b>Basic and diluted earnings/(loss) per share (RMB cent)</b>	<b>每股基本及攤薄盈利/(虧損) (以人民幣分列示)</b>					
- Continuing and discontinued operations	- 持續經營業務和已終止經營業務	0.72	1.88	-4.78	0.94	<b>-13.85</b>
- Continuing operations	- 持續經營業務	6.55	-0.68	-4.78	0.94	<b>-13.85</b>
- Discontinued operation	- 已終止經營業務	-5.83	2.56	-	-	-
Total non-current assets	非流動資產總額	10,851,227	11,534,104	11,930,118	13,233,455	<b>9,295,814</b>
Total current assets	流動資產總額	24,757,023	22,623,310	22,883,194	23,549,275	<b>15,175,176</b>
Total assets	資產總額	35,608,250	34,157,414	34,813,312	36,782,730	<b>24,470,990</b>
Total current liabilities	流動負債總額	21,964,491	21,156,406	20,277,171	22,472,065	<b>13,026,587</b>
Total non-current liabilities	非流動負債總額	5,710,494	5,257,836	6,974,423	6,166,527	<b>2,962,144</b>
Net assets	資產淨額	7,933,265	7,743,172	7,561,718	8,144,138	<b>8,482,259</b>
Total equity attributable to equity shareholders of the Company	歸屬於本公司權益股東的權益總額	4,864,544	4,769,484	4,766,114	5,577,450	<b>6,189,218</b>
Non-controlling interests	非控股權益	3,068,721	2,973,688	2,795,604	2,566,688	<b>2,293,041</b>
Total equity	權益總額	7,933,265	7,743,172	7,561,718	8,144,138	<b>8,482,259</b>

# CORPORATE STRUCTURE

## 公司架構

\* This chart is updated to 31 December 2021

\* 本圖更新至2021年12月31日



Environmental Protection  
環保



Energy Conservation Solutions  
節能解決方案



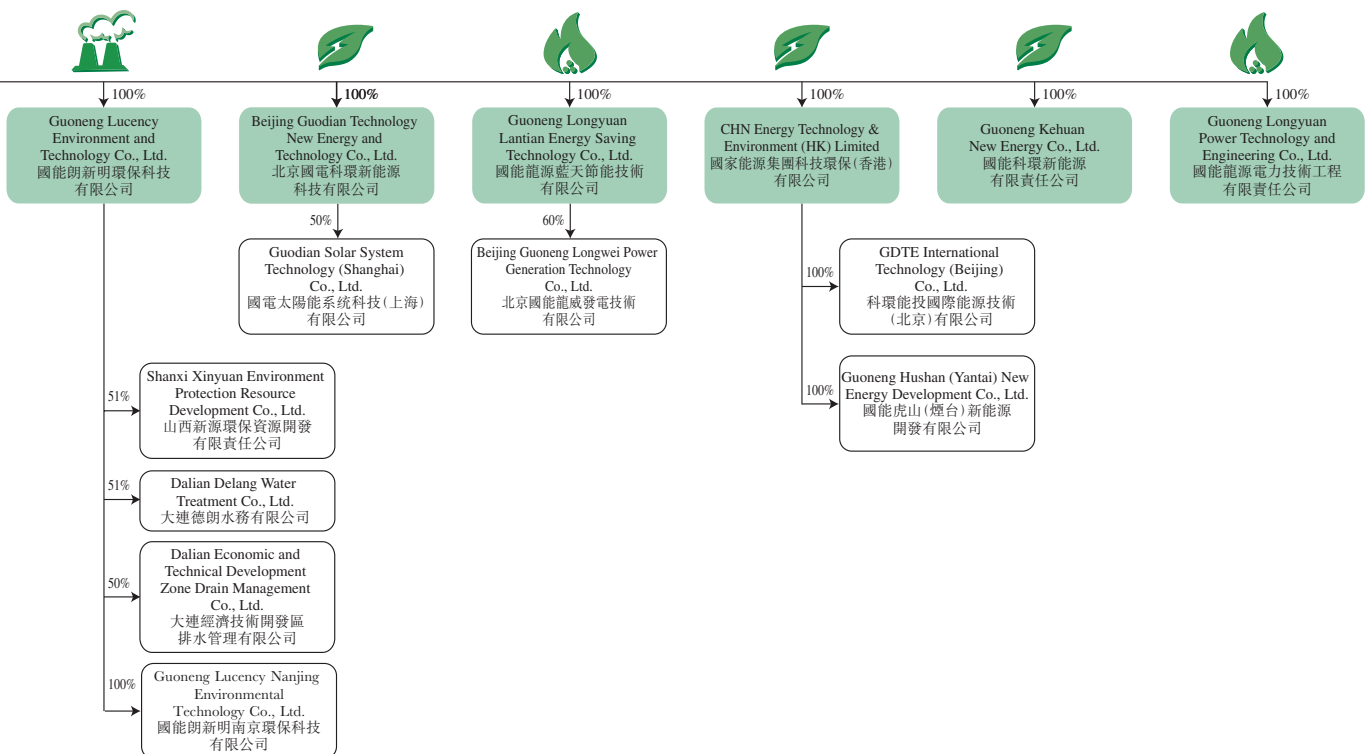
Wind Power Products and Services  
風電產品及服務



Other  
其他

# CORPORATE STRUCTURE (CONTINUED)

## 公司架構(續)



# CHAIRMAN'S STATEMENT

## 董事長致辭



### Dear Shareholders:

On behalf of the board of directors (the “**Director(s)**”) (the “**Board of Directors**”) of the Company, I am honored to present to you the 2021 annual report of the Group (the “**Annual Report**”).

In 2021, saw the major changes unseen in a century become even more daunting as an increasingly complicated external environment. But the fundamentals of

the Chinese economy, characterized by strong resilience and long-term sustainability, remain unchanged. the Outline of the 14th Five-Year Plan (2021–2025) for National Economic and Social Development and the Long-Range Objectives Through the Year 2035 highlights for the first time the implementation of energy resource security strategy, emphasizing again the promotion of the energy revolution and the construction of a clean, low-carbon, safe and efficient energy system. For the first time in history, China has achieved the installed capacity of renewable energy generation exceeding 1 billion kW, and the annual energy output of new energy generation exceeding 1,000 TWh.

Guodian Tech has been operating for many years in environmental protection and energy saving, in addition to having a good foundation and technical know-how in information control. Based on energy mix adjustment and power technology change, we will accelerate the reform of ecological civilization system in accordance with the requirements of the 19th CPC National Congress, for the purposes of building a beautiful China, creating a good production and living environment for the people and working for global ecological security. Adhering to the industrial We will practice “strive for socialism” and underline the principle of pursuing progress while ensuring stability. We will implement the new development philosophy accurately and comprehensively to help build a new development pattern and promote high-quality development. We will endeavor to implement the development strategy of China Energy with “one goal, three orientations, five characteristics, and seven first-class”. With the key working principles of “stability, synergy, empowerment and quality improvement”, we will balance development and safety, and push forward the three-year action plan for SOE reform. We will stand on our own feet to deepen scientific and technological innovation and constantly improve our capability of sustainable development. We will give full play to the guarantee role of party building and endeavor to provide better service and support for the main businesses of China Energy. In conclusion, the Company will make new and greater contributions to the development of China Energy into a world-class energy group with global competitiveness, and welcome the 20th CPC National Congress with our practical actions.

### 尊敬的股東：

我很榮幸代表本公司董事會(「**董事**」)(「**董事會**」)向各位股東公佈本集團2021年年度報告(「**年報**」)。

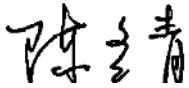
2021年，百年變局加速演進，外部環境更趨複雜嚴峻和不確定，我國經濟韌性強，長期向好的基本面沒有改變。《「十四五」規劃和2035年遠景目標綱要》首次明確實施能源資源安全戰略，再次強調推進能源革命，建設清潔低碳、安全高效的能源體系。我國可再生能源發電裝機規模歷史性突破10億千瓦，新能源年發電量首次突破1萬億千瓦時大關。

國電科環在環保節能領域深耕多年，在信息控制領域具有較好的基礎，具有較強的技術積累，將緊緊圍繞能源結構調整和電力技術變革，按照黨的十九大所提出的加快生態文明體制改革，建設美麗中國，為人民創造良好生產生活環境，為全球生態安全作出貢獻為目標，堅持讓能源利用更加清潔高效的產業發展方向，積極主動為國家能本公司將紮實踐行「社會主義是幹出來的」偉大號召，堅持穩中求進工作總基調，完整、準確、全面貫徹新發展理念，服務構建新發展格局，推動高質量發展，着力落實國家能源集團「一個目標、三型五化、七個一流」發展戰略，突出「穩健、協同、賦能、提質」的工作導向，統籌發展和安全，決戰決勝國企改革三年行動，自立自強深化科技創新，不斷提升可持續發展能力，充分發揮黨建引領保障作用，努力提升對國家能源集團主業的服務和保障能力，為國家能源集團建設具有全球競爭力的世界一流能源集團作出新的更大貢獻，以實際行動迎接黨的二十大勝利召開。

## CHAIRMAN'S STATEMENT (CONTINUED) 董事長致辭(續)

Looking ahead, the Company will continue to leverage the platform and resources provided by China Energy, strive to build a world-class professional technology and environmental protection company with a strong innovation capacity, good economic benefit, a good social image, efficient operation, flexible mechanism, and respect, reward shareholders of the Company (the “**Shareholder(s)**”) with excellent business performance, and give back to the community!

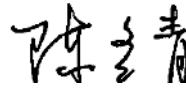
In conclusion, on behalf of the Board of Directors, I would like to extend my heartfelt gratitude to all shareholders, customers, and business partners for their trust and support, as well as to the management and employees for their efforts and contributions.



**Mr. CHEN Dongqing**  
*Chairman of the Board*

展望未來，本公司將繼續利用國家能源集團所提供的平台和資源，努力建設創新能力強、經濟效益優、社會形象好、運轉高效、機制靈活、受人尊敬的世界一流水平專業化科技環保公司，並以優異的經營業績回報本公司股東(「股東」)，回報社會！

最後，我謹代表董事會，在此衷心感謝全體股東、客戶、業務合作夥伴的信任和支持，同時也感謝管理層及員工的努力和貢獻。



**陳冬青先生**  
*董事長*

# GENERAL MANAGER'S STATEMENT

## 總經理致辭



### Dear Shareholders:

Adhering to the guidance of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, the Group adheres to the Party's leadership, strengthens Party building, thoroughly implements the overall development strategy of China Energy, adheres to the general keynote of seeking progress while maintaining stability, earnestly implements the work arranged by the Board of Directors, and

steadily pushes forward key tasks such as work safety, marketing, and technological innovation. In complex and severe internal and external situations, the Company maintained a good momentum of stable production and operation, better reform and development, and a stable employee team through the unremitting efforts of all employees of the Company.

During this year, the Company made coordinated progress in COVID-19 prevention and control as well as business development, realized continued and stable safety and environmental protection, deeply implemented the innovation strategy, made breakthroughs in market-oriented reform, achieved fruitful marketing results, made solid progress in transformation and upgrading, continuously enhanced the governance system, and comprehensively strengthened the Party building. Among the achievements, the Company signed the framework agreements with Wuhai City and Kunshan City on jointly building demonstration cities with green, high-quality, energy-friendly, and low-carbon development. The Company signed strategic cooperation agreements with companies such as CASI Cloud, BNBM, Metallurgical Science and Technology Development Center, International Cooperation & China urban planning Institute, and State Grid Integrated Energy Service Group to establish strategic partnerships. The reform achievements of Longyuan Environmental were included in the Three-year Action Briefing on Reform of State-owned Enterprises issued by the State-owned Assets Supervision and Administration Commission (SASAC), and the reform experience of Guoneng I&C was included in the Reform and Innovation Case Collection of "Demonstration Actions of Scientific Reform. Guodian Longyuan Energy Conservation Technology Co., Ltd. ("**Longyuan Energy Conservation**") was rated as an 5A enterprise with comprehensive capability in the industrial field by China Energy Conservation Association.

### 尊敬的股東：

本集團堅持以習近平新時代中國特色社會主義思想為指引，堅持黨的領導、加強黨的建設，深入貫徹落實國家能源集團的總體發展戰略，堅持穩中求進工作總基調，認真執行董事會工作部署，紮實推進安全生產、市場營銷、科技創新等各項重點工作。在複雜嚴峻的內外部形勢下，通過公司全體員工的不懈努力，保持了生產運營平穩、改革發展向好、員工隊伍穩定的良好態勢。

本年度，本公司疫情防控和經營發展統籌推進，安全環保持續穩定，創新戰略深入實施，市場化改革實現突破，市場營銷成果豐碩，轉型升級邁出堅實步伐，治理體系持續健全，黨的建設全面加强。其中：與烏海市、昆山市簽署共建綠色高質量、能源綠色低碳發展示範城市框架協議；與航天雲網、北新建材、冶金科技發展中心、國合華夏城市規劃研究院及國網綜能服務集團等企業簽署戰略合作協議，打造戰略合作夥伴關係；龍源環保改革成果入選國資委《國企改革三年行動簡報》，國能信控改革經驗入選《改革創新「科改示範行動」案例集》；國能龍源藍天節能技術有限公司（「**龍源節能**」）獲評中國節能協會工業領域綜合能力5A級企業。



## GENERAL MANAGER'S STATEMENT (CONTINUED) 總經理致辭(續)

In addition, there were many highlights of the Company's technological innovation in the year. A total of 14 scientific and technological achievements were transformed in 2021. The "Key Technology of High-efficient Water-saving Ultra-low Emission of Coal-fired Flue Gas" of Longyuan Environmental has been appraised to be at an international leading level by the Chinese Society for Electrical Engineering. The international standard IEC Technical Specification for Flame Detector System of Boiler, which was compiled under the joint leading of Longyuan Technology, was officially published, and the ignition technology of lignite with high moisture has filled the gap in China. It is the first time in the world that the ammonia-mixed combustion technology of coal-fired boiler has realized 35% of the heat in 40MW coal-fired boiler with ammonia-mixed combustion, and the project achievements have reached the international leading level. The first set of independent and controllable intelligent distributed control system (iDCS) demonstration application project in China of Guoneng Zhishen has passed the acceptance inspection in Bulian Power Plant and has been successfully applied in a million-kilowatt coal-fired unit for the first time. Guoneng I&C has been approved as an Enterprise Technology Center of Hebei Province and "the research and application of intelligent control platform for coal handling system safety in thermal power plants have been appraised to be at an international advanced level". The project of comprehensive utilization of desulfurization wastewater in Beilun Power Plant, undertaken by Guoneng Lucency Environment and Technology Co., Ltd. ("**Lucency**"), has been put into commercial operation, which is the largest desulfurization wastewater recycling project in China. Longyuan Energy Conservation has been approved as an Enterprise Technology Center of Beijing.

The year 2022 is the year of the 20th National Congress of the CPC and the key year of the 14th Five-Year Plan. Guided by Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, the Group will continue to implement China Energy's development strategy of "one objective, three types, five orientations, and seven first-class", continue to improve the safety and environmental protection level, strengthen strategic guidance, focus on market development, enhance innovation-driven development, promote reform and development, optimize asset quality, improve management and strengthen Party building, strive to create a new future of high-quality transformation and development with an indefatigable mental state and an indomitable attitude of struggle, and welcome the 20th National Congress of the CPC with outstanding achievements.



Mr. LI Caiyun  
General Manager

此外，本年度公司科技創新工作亮點紛呈。2021年共14個科技成果實現轉化。龍源環保「高效節水型燃煤煙氣超超低排放關鍵技術」經中國電機工程學會鑒定為國際領先水平；龍源技術聯合主導完成的國際標準IEC《鍋爐火焰檢測系統技術規範》正式公佈，高水分褐煤點火技術填補國內空白；燃煤鍋爐混氨燃燒技術在40MWth燃煤鍋爐實現混氨燃燒熱量比例達35%屬世界首次，項目成果達到國際領先水平；國能智深國內首套自主可控智能分散控制系統(iDCS)示範應用項目在布連電廠通過驗收，並首次在百萬千瓦燃煤機組成功應用；國能信控成功獲批河北省企業技術中心，「火電廠輸煤系統安全智能管控平台研製與應用經鑒定為國際先進水平」；國能朗新明環保科技有限公司(「朗新明」)承建的北侖電廠全廠脫硫廢水資源化綜合利用項目投入商業運行，是目前國內最大的火電廠脫硫廢水資源化項目；龍源節能成功獲批北京市企業技術中心。

2022年是黨的二十大召開之年，是「十四五」承上啟下的關鍵之年。本集團將以習近平新時代中國特色社會主義思想為指導，持續踐行國家能源集團「一個目標、三型五化、七個一流」發展戰略，持續提升安全環保水平、強化戰略引領、抓好市場開拓、加強創新驅動、推動改革發展、優化資產質量、提升管理水平及加強黨的建設，以永不懈怠的精神狀態和一往無前的奮鬥姿態，奮力開創高質量轉型發展新未來，以優異成績迎接黨的二十大勝利召開。



李彩雲先生  
總經理

# MANAGEMENT'S DISCUSSION AND ANALYSIS

## 管理層討論與分析

### MANAGEMENT'S DISCUSSION AND ANALYSIS

Certain statistical data and other information relating to the PRC and the industries in which the Group operates contained in, for instance, the section titled "Key Industry Developments" in this report, have been derived from various publicly available official publications. The Company believes that the sources of these data are appropriate and has taken reasonable care in extracting and reproducing such information. The Company has no reason to believe that such information is false or misleading or that any fact has been omitted that would render such information false or misleading. The information has not been independently verified by the Company or any other relevant party. The Company makes no representation as to the accuracy of the information contained in such sources, which may not be consistent with other data compiled within or outside the PRC. Accordingly, these data may not be accurate and the information should not be unduly relied upon for your investment in the Company.

This report contains certain forward-looking statements and information relating to the Group or the Company that are based on the belief and assumptions of the management of the Company. The words "anticipate", "believe", "expect", "going forward" and similar expressions, as they relate to the Company, the Group or the Company's management, are intended to identify forward-looking statements. Such statements reflect the current views of the Company's management with respect to future events and are subject to certain risks, uncertainties and assumptions. Should one or more of these risks or uncertainties materialize, or should underlying assumptions prove incorrect, the Group's business, financial condition and operating results may be adversely affected and may vary materially from those described herein as anticipated, believed or expected.

### INDUSTRY AND BUSINESS OVERVIEW IN 2021

#### Key Industry Developments

In 2021, facing the challenges and risks under the new normal of economic development, the PRC government has introduced new regulations and policy measures applicable to China's electricity and electricity-related industries.

For the purpose of this report, the "PRC" refers to the People's Republic of China, excluding Taiwan, the Macau Special Administration Region of the PRC and the Hong Kong Special Administration Region of the PRC.

### 管理層討論與分析

本報告中如「主要行業發展」部分所載有關中國及本集團所經營行業的若干統計數據及其他信息乃摘自不同的官方公開刊物。本公司相信有關數據源為恰當的數據源並已合理謹慎地摘錄及轉載有關資料。本公司並無理由相信有關資料屬虛假或誤導性的資料或遺漏任何事實致使該等資料屬虛假或誤導性的資料。有關資料並未經本公司或相關各方獨立核實。本公司並沒有就該等來源所載資料的準確性發表任何聲明，而該等數據可能與中國境內外編製的其他數據不一致。因此，該等數據未必準確，閣下投資於本公司時不應過度依賴上述資料。

本報告載有基於本公司管理層的信念及假設作出有關本集團或本公司的若干前瞻性陳述及資料。「預計」、「相信」、「預期」、「今後」及類似表述，當用於本公司、本集團或本公司的管理層時，即指前瞻性陳述。此類陳述反映出本公司管理層對未來事件的當前觀點，並受若干風險、不明朗因素及假設的影響。倘一項或多項該等風險或不明朗因素成真，或倘相關假設被證實為不正確，本集團的業務、財務狀況及經營業績或會受不利影響且可能與本報告所述的預計、相信或預期者大不相同。

### 2021年行業和業務回顧

#### 主要行業發展

2021年，面臨經濟發展新常態下的風險挑戰，中國政府陸續出台了適用於中國電力及與電力相關行業的新法規及政策措施。

中國是指中華人民共和國。僅就本報告中所提及「中國」，不包括台灣、澳門特別行政區及香港特別行政區。

## MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED) 管理層討論與分析(續)

Set forth below are the key regulations and policy initiatives issued by the PRC government and other relevant regulatory authorities in 2021 till the date of this report that are expected to have a material effect on the Group's businesses, operations and financial conditions:

1. On 4 January 2021, the National Development and Reform Commission, Ministry of Industry and Information Technology, the Ministry of Finance and 10 other departments of the People's Republic of China jointly issued the Guiding Opinions on Promoting the Utilization of Sewage Resources (the "**Guiding Opinions I**").

The Guiding Opinions I clearly states that by 2025, the national sewage collection efficiency will be significantly improved, the sewage treatment capacity of county towns and cities will basically meet the needs of local economic and social development, and the sewage treatment in water environment sensitive areas will be basically upgraded; the utilization rate of reclaimed water in prefecture level and above water-deficient cities in China will be over 25%, and that of Beijing-Tianjin-Hebei region will be over 35%; the reuse of industrial water and utilization level of livestock and poultry manure and fishery tail water will be significantly improved; the policy system and market mechanism of sewage resource utilization will be basically established. By 2035, a systematic, safe, environmentally friendly and economical pattern of sewage resource utilization will be formed.

In order to ensure the effective implementation of sewage resource utilization in key areas, the Guiding Opinions I also deployed implementation of a series of key projects, and proposed to improve the system and mechanism of sewage resource utilization from five aspects: perfecting laws and regulations, constructing policy system, perfecting price mechanism, perfecting financial policies and strengthening scientific and technological support.

The issuance of the Guiding Opinions I clearly states the policy direction of sewage treatment in China's environmental protection industry, and the reclaimed water treatment business of the Group's environmental protection industry will continue to maintain a good development trend.

以下為中國政府及其他有關監管機構於2021年至本報告日前頒佈的主要法規及政策措施，預期該等法規及政策措施將對本集團的業務、經營和財務狀況產生實質性影響：

1. 2021年1月4日，國家發展和改革委員會、工業和信息化部、財政部等10部門聯合印發《關於推進污水資源化利用的指導意見》（「《指導意見一》」）。

《指導意見一》明確指出，到2025年，全國污水收集效能顯著提升，縣城及城市污水處理能力基本滿足當地經濟社會發展需要，水環境敏感地區污水處理基本實現提標升級；全國地級及以上缺水城市再生水利用率達到25%以上，京津冀地區達到35%以上；工業用水重複利用、畜禽糞污和漁業養殖尾水資源化利用水平顯著提升；污水資源化利用政策體系和市場機制基本建立。到2035年，形成系統、安全、環保及經濟的污水資源化利用格局。

為保障重點領域污水資源化利用有效實施，《指導意見一》還部署實施了一系列重點工程，提出從健全法規標準、構建政策體系、健全價格機制、完善財金政策及強化科技支撐五方面完善污水資源化利用體制機制。

《指導意見一》的發佈明確了中國環保產業污水處理的政策方向，本集團環保產業中水處理業務將繼續保持良好的發展態勢。

## MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

### 管理層討論與分析(續)

2. On 22 February 2021, the State Council issued the Guiding Opinions on Accelerating the Establishment and Perfection of a Green and Low-carbon Circular Development Economic System (the “**Guiding Opinions II**”).

The Guiding Opinions II clearly states that by 2025, the industrial structure, energy structure and transportation structure will be significantly optimized, the proportion of green industries will be increased significantly, the greening level of infrastructure will be continuously improved, the level of cleaner production will be continuously improved, the green transformation of production and lifestyle will have remarkable results, the allocation of energy resources will be more rational and the utilization efficiency will be greatly improved, the total emission of major pollutants will be continuously reduced, the carbon emission intensity will be significantly reduced, the ecological environment will be continuously improved, the market-oriented green technology innovation system will be improved, the laws, regulations and policies will be more effective, and the production system, circulation system and consumption system of green and low-carbon circular development will be initially formed. By 2035, the endogenous driving force of green development will be significantly enhanced, the scale of green industry will reach a new level, the utilization efficiency of energy resources in key industries and key products will reach the international advanced level, and a green production lifestyle will be widely formed. After peaking, carbon emissions will decline steadily, the ecological environment will be fundamentally improved, and the goal of building a beautiful China will be basically achieved.

The issuance of the Guiding Opinions II will bring opportunities for the sustainable and healthy development of the Group's environmental protection and energy-saving solutions business and wind/photovoltaic power plants business.

2. 2021年2月22日，國務院印發《關於加快建立健全綠色低碳循環發展經濟體系的指導意見》(「《指導意見二》」)。

《指導意見二》明確指出，到2025年，產業結構、能源結構、運輸結構明顯優化，綠色產業比重顯著提升，基礎設施綠色化水平不斷提高，清潔生產水平持續提高，生產生活方式綠色轉型成效顯著，能源資源配置更加合理、利用效率大幅提高，主要污染物排放總量持續減少，碳排放強度明顯降低，生態環境持續改善，市場導向的綠色技術創新體系更加完善，法律法規政策體系更加有效，綠色低碳循環發展的生產體系、流通體系、消費體系初步形成。到2035年，綠色發展內生動力顯著增強，綠色產業規模邁上新臺階，重點行業、重點產品能源資源利用效率達到國際先進水平，廣泛形成綠色生產生活方式，碳排放達峰後穩中有降，生態環境根本好轉，美麗中國建設目標基本實現。

《指導意見二》的發佈將為本集團環保及節能解決方案業務、風光電廠運營業務的持續健康發展帶來機遇。

## MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED) 管理層討論與分析(續)

3. On 11 May 2021, the National Energy Administration issued the Notice on Matters Related to the Development and Construction of Wind and Photovoltaic Power Generation in 2021 (the "Notice").

The Notice makes general requirements that the objectives of peak carbon dioxide emissions and carbon neutrality need to be achieved, and that non-fossil energy need to account for about 25% of primary energy consumption, and the total installed capacity of wind power and solar power need to reach over 1.2 billion kW by 2030. In 2021, the generating capacities of wind and photovoltaic power generation throughout China should account for about 11% of the total electricity consumption of the society. This ratio should also increase year by year to ensure that non-fossil energy consumption accounts for about 20% of the total primary energy consumption in 2025.

The Notice calls for establishing diversified guarantee mechanisms for grid connection. For new grid-connected projects required to complete the annual minimum non-hydropower utilization responsibility at the provincial (district, municipal) levels, guaranteed grid connection is provided by power grid enterprises, in order to ensure the guaranteed grid-connected scale is not lower than 90 million kW in 2021.

The issuance of the Notice marks a new stage for the development of wind and photovoltaic power generation, and also brings new opportunities for the construction and operation of wind and photovoltaic power plants of the Group.

3. 2021年5月11日，國家能源局印發《關於2021年風電、光伏發電開發建設有關事項的通知》(「《通知》」)。

《通知》提出了總體要求，要落實碳达峰、碳中和目標，以及2030年非化石能源佔一次能源消費比重達到25%左右、風電太陽能發電總裝機容量達到12億千瓦以上等任務。2021年，全國風電、光伏發電發電量佔全社會用電量的比重達到11%左右，後續逐年提高，確保2025年非化石能源消費佔一次能源消費的比重達到20%左右。

《通知》要求建立併網多元保障機制。各省(區、市)完成年度非水電最低消納責任權重所必需的新增併網項目，由電網企業實行保障性併網，2021年保障性併網規模不低於9,000萬千瓦。

《通知》的發佈，標誌著風電、光伏發電進入新發展階段，為本集團風光電廠建設運營帶來新的契機。

## MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

### 管理層討論與分析(續)

4. The Ministry of Ecology and Environment issued the Guiding Opinions on Enhanced Control of Ecological and Environmental Pollution Sources for Energy- and Emission-intensive Construction Projects on 30 May 2021 (the “**Guiding Opinions III**”).

The Guiding Opinions III states that the ecological environment departments at all levels should strengthen the prevention and control of the ecological environment of the high pollution and high energy-consuming projects from the source. The main tasks are to strengthen the zoning management and control and planning constraints of ecological environment, to strictly implement the review and approval of environmental impact assessment of the high pollution and high energy-consuming projects, and to promote the coordinated control of pollution and carbon reduction in the high pollution and high energy-consuming industries. Particularly, the high pollution and high energy-consuming industries include coal power, petrochemical, chemical, iron & steel, nonferrous metal smelting, and building materials industries.

The Guiding Opinions III calls for improving the level of cleaner production and pollution prevention and control. The newly built and expanded high pollution and high energy-consuming projects should adopt advanced and applicable technologies and equipment; material consumption, energy consumption, and water consumption per unit product should reach the advanced level of cleaner production; measures to prevent and control soil and groundwater pollution should be formulated and strictly implemented in accordance with laws and regulations. If the national or local requirements for ultra-low emissions have been issued, the construction projects in the high pollution and high energy-consuming industries should meet such requirements.

The Guiding Opinions III sets requirements of ultra-low emissions for the high pollution and high energy-consuming industries, which is expected to bring benefits for the environmental protection and energy-saving business of the Group.

4. 2021年5月30日，生態環境部印發《關於加強高耗能、高排放建設項目生態環境源頭防控的指導意見》(《**指導意見三**》)。

《指導意見三》提出各級生態環境部門加強「兩高」項目生態環境源頭防控，主要是加強生態環境分區管控和規劃約束，嚴格「兩高」項目環評審批，推進「兩高」行業減污降碳協同控制。其中，「兩高」項目包括煤電、石化、化工、鋼鐵、有色金屬冶煉、建材等六個行業。

《指導意見三》要求提升清潔生產和污染防治水平。新建、擴建「兩高」項目應採用先進適用的工藝技術和裝備，單位產品物耗、能耗、水耗等達到清潔生產先進水平，依法制定並嚴格落實防治土壤與地下水污染的措施。國家或地方已出台超低排放要求的「兩高」行業建設項目應滿足超低排放要求。

《指導意見三》的發佈設定了「兩高」行業超低排放的要求，預計將對本集團環保節能產業形成利好。

## MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED) 管理層討論與分析(續)

5. On 7 November 2021, the State Council issued the Opinions on the Further Pollution Prevention and Control (the “**Opinion I**”).
- The Opinion I includes a clear statement that the ecological environment should be continuously improved by 2025, in particular the heavy polluted weather and urban sewage should be essentially eliminated, and the risk of soil pollution should be effectively controlled. The document highlights the key industries and fields with obvious synergistic effect of reducing pollution and carbon, and emphasizes the key tasks to promote green and low-carbon development, in particular, the clean and low-carbon transformation of energy should be promoted, and the blind development of high-energy-consuming and high-emission projects should be resolutely curbed.
- According to Opinion I, to keep our sky blue, we should make efforts in air pollution prevention and control, in addition to noise pollution control; to keep our water clear, we should make efforts in urban water treatment, in addition to collaborative pollution treatment; to keep our land pollution-free, we should make efforts in soil pollution prevention and soil safe use, in addition to synergistic prevention of groundwater pollution.
- The release of Opinion I is beneficial to the development of clean energy, and as a result, it will ensure a favorable environment for the construction and operation of the Group's businesses in environmental protection and energy conservation, as well as wind power and photovoltaic plants.
6. On 24 January 2022, the State Council issued the Comprehensive Work Plan for Energy Conservation and Emission Reduction in the 14th Five-Year Plan Period (the “**Plan**”).
- It is specified in the Plan that, by 2025, China's energy consumption per unit of GDP will drop 13.5% compared to 2020, the total energy consumption will be reasonably controlled, the total emission of chemical oxygen demand, ammonia nitrogen, nitrogen oxide, and volatile organic compounds will decrease by 8%, 8%, more than 10%, and more than 10% respectively compared to 2020.
- The Plan defines key projects and specifies their objectives and tasks such as green upgrading projects in key industries, energy-saving and environmental protection projects in parks, pollutant reduction projects in key regions, coal clean and efficient utilization project, and comprehensive remediation projects for volatile organic compounds.
- The release of the Plan is expected to be beneficial to the construction and operation of the Group's businesses in environmental protection and energy conservation, as well as wind power and photovoltaic plants.
5. 2021年11月7日，國務院印發《關於深入打好污染防治攻堅戰的意見》(「**意見一**」)。
- 《意見一》明確提出到2025年生態環境持續改善，重污染天氣、城市黑臭水體基本消除，土壤污染風險得到有效管控。意見聚焦減污降碳協同效應明顯的重點行業和領域，明確了推動綠色低碳發展的重點任務，推動能源清潔低碳轉型，堅決遏製高耗能高排放項目盲目發展等。
- 《意見一》要求深入打好藍天保衛戰，著力打好大氣污染防治攻堅戰，加強噪聲污染治理；深入打好碧水保衛戰，持續打好城市水治理攻堅戰，強化污染協同治理；深入打好淨土保衛戰，推進土壤污染防治和安全利用，強化地下水污染協同防治。
- 《意見一》的發佈有利於清潔能源發展，為本集團環保、節能、風光電廠建設運營等產業帶來良好的經營環境。
6. 2022年1月24日，國務院印發《「十四五」節能減排綜合工作方案》(「**方案**」)。
- 《方案》明確，到2025年，全國單位國內生產總值能源消耗比2020年下降13.5%，能源消費總量得到合理控制，化學需氧量、氨氮、氮氧化物、揮發性有機物排放總量比2020年分別下降8%、8%、10%以上、10%以上。
- 《方案》部署了包括重點行業綠色升級工程、園區節能環保提升工程、重點區域污染物減排工程、煤炭清潔高效利用工程、揮發性有機物綜合整治工程等重點工程，明確了具體目標任務。
- 《方案》的發佈預計將對本集團環保及節能產業、風光電廠建設運營產業形成利好。

## MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

### 管理層討論與分析(續)

#### KEY BUSINESS DEVELOPMENT

##### Environmental Protection Business

As of 31 December 2021, the Group's desulphurisation and denitrification projects under construction were set out as follows:

Projects	項目	Number 數量 (個)	Installed capacity 裝機容量 (MW) (兆瓦)
Desulphurisation projects under construction	在建脫硫項目	17	16,710
Including: Renovation EPC projects	其中：改造EPC項目	6	3,870
Newly built EPC projects	新建EPC項目	11	12,840
Denitrification projects under construction	在建脫硝項目	18	18,000
Including: renovation EPC projects	其中：改造EPC項目	13	11,580
Newly built EPC projects	新建EPC項目	5	6,420

The models of concession operations of the Group's environmental protection business are categorised into three types: general concession model, the operation and maintenance model of general contracting for tariff (generating income from tariff on desulphurisation, and assuming the responsibility for the supply of materials and the disposal of desulphurisation by-products in addition to general operation and maintenance) and the operation and maintenance model (generating income from general operation and maintenance). As of 31 December 2021, the operating units of desulphurisation concession operation of the Group had an aggregate installed capacity of 15,740MW, and the operating units of denitrification concession operation had an aggregate installed capacity of 11,840MW; the desulphurisation generating units under the operation and maintenance model of general contracting for tariff had an installed capacity of 4,040MW; the desulphurization generating units under the operation and maintenance model had an installed capacity of 18,130MW.

#### 主要業務發展

##### 環保業務

截至2021年12月31日止，本集團在建脫硫脫硝項目情況如下表所示：

本集團環保業務特許經營模式分為三種：一般特許經營模式、電價總包運維模式(獲得脫硫電價收益，除負責一般性運維外還負責物耗供應及脫硫副產物的處置)、運維模式(獲得一般性運維收益)。截至2021年12月31日止，本集團脫硫特許經營在運機組裝機總容量為15,740兆瓦，脫硝特許經營在運機組裝機總容量為11,840兆瓦；電價總包運維模式脫硫機組為4,040兆瓦；運維模式脫硫機組為18,130兆瓦。



## MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED) 管理層討論與分析(續)

As of 31 December 2021, the annual production capacity of denitrification catalysts, the key material for denitrification service of the Group was 26,000 m<sup>3</sup>. At present, the application of the Group's small pore catalysts in the gas-fired generating units of Hami Xuanli Gas-fired Power Generation Co., Ltd.\*, which indicated that the new catalysts technology has broken the monopoly of foreign companies.

The environmental protection business has been further expanded, and the sludge disposal project of Guoneng Changzhou Power Generation Co., Ltd.\*, the synergistic treatment of multiple pollutants project of Salaqi Power Plant of Beijing GD Power Co., Ltd.\*, the operations at high standards of comprehensive utilization project of China Shenhua Coal Liquefaction and Chemical Co., Ltd.\*, which indicated the mature application of sludge mixed burning technology and Haber process, semi-dry process and other new desulfurisation processes.

In terms of water treatment, Guodian Zhejiang Beilun No. 1 Power Generation Co., Ltd.\* has passed 168-hour trial operation of the comprehensive utilization project of desulphurisation wastewater of the whole plant, and coal-power integrated wastewater zero emission demonstration project of Guodian Construction Investment Inner Mongolia Energy Co., Ltd.\* has been put into trial operation.

A breakthrough has been made in the field of coal and coal chemical industry, the Company won the bids for the renovation EPC of quality improvement project of domestic sewage stations in Heishan open-pit coal mines and Hongshaquan open-pit coal mines of China Shenhua Xinjiang Energy Co., Ltd.\*.

As of 31 December 2021, the Group processed approximately 105,000,000 tons of sewage (including reclaimed water) and reduced the cumulative COD (chemical oxygen demand) emissions by approximately 28,000 tons.

截至2021年12月31日止，本集團脫硝服務的關鍵材料—脫硝催化劑的年產能為26,000立方米。目前本集團小孔催化劑在哈密宣力燃氣發電有限公司所屬燃氣機組中的應用，標誌著新型催化劑技術已打破國外壟斷。

環保業務進一步拓寬，國能常州發電有限公司污泥處置項目、北京國電電力有限公司薩拉齊電廠多污染物協同治理項目、中國神華煤製油化工有限公司綜合利用項目的高標準投運，標誌著污泥摻燒技術和氨法、半乾法等新型脫硫工藝的成熟應用。

水處理方面，國電浙江北侖第一發電有限公司全廠脫硫廢水資源化綜合利用項目通過168小時試運行，國電建投內蒙古能源有限公司煤電一體化廢水零排放示範項目實現試運行。

煤炭、煤化工領域取得突破，中標神華新疆能源有限責任公司黑山露天煤礦生活污水站提質改造項目EPC總承包工程項目及神華新疆能源有限責任公司紅沙泉露天煤礦生活污水站提質改造項目EPC總承包工程項目。

截至2021年12月31日，污水處理(含中水)量約為10,500萬噸，COD(化學需氧量)累計減排量約為2.80萬噸。

## MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

### 管理層討論與分析(續)

In terms of acoustic treatment, the Company won the bids for the newly built comprehensive environmental noise control of the whole plant construction project of Shenhua Luoyuanwan Power Plant in Fujian, the engineering project of the installation of sound barriers from Wangjiazhai to Nanpo bottom section of Baoshen Railway of Shenshuo Company, the design and construction project of newly installation of sound barriers (Suning) of Guoneng Shuohuang Railway Company, the research project contract of comprehensive control technologies of long-distance tubular belt transportation of equipment noises of Zhunneng Energy Group, and the Company was rich in performance types, covering four industries, namely electricity, coal, transportation and municipal transportation.

#### Energy Conservation Solutions Business

The first domestic demonstration project of autonomous controllable intelligent distributed control system (iDCS) of Guoneng Zhishen was successfully accepted by Bulian Power Plant and was successfully applied in 100MW coal-fired generating unit for the first time.

#### Wind Power Products and Services Business

The Group accelerated the research and development of new products and optimized the integrated product platform and formed five product lines: 3.XMW platform, 4.X-5.XMW platform, 6.X-8.XMW platform, 9.X-10.XMW platform and offshore wind turbines platform. The Company accelerated the iterative design of products and completed the design certification of models including 3.6MW/4MW-166, 5.5MW-176, 6.5MW-184, 7MW-195 models. The Company accelerated the introduction, absorption and transformation of international leading technology, signed a memorandum of understanding with Siemens Gamesa at the Shanghai Import Expo, and carried out comprehensive cooperation in technology transfer, manufacturing, quality assurance system and operation and maintenance of 11MW offshore turbines, which helped deeply participate in the competition in the offshore wind power market.

聲學治理方面，中標福建神華羅源灣電廠新建工程全廠環境噪聲綜合治理工程施工項目、包神鐵路神朔公司王家寨至南坡底區間安裝聲屏障工程項目、國能朔黃鐵路公司加裝聲屏障(肅寧)設計施工項目、準能集團長距離管狀帶式輸送機噪聲綜合治理技術研究項目合同，業績種類豐富，覆蓋電力、煤炭、運輸和市政交通四個行業。

#### 節能解決方案業務

國能智深國內首套自主可控智能分散控制系統(iDCS)示範應用項目在布連電廠通過驗收，首次在百萬千瓦燃煤機組成功應用。

#### 風電產品及服務業務

本集團加快新產品研發，優化整合產品平台，形成3.X兆瓦平台、4.X-5.X兆瓦平台、6.X-8.X兆瓦平台、9.X-10.X兆瓦平台和海上風機平台5條產品線。加快產品迭代設計，完成3.6兆瓦/4兆瓦-166、5.5兆瓦-176、6.5兆瓦-184、7兆瓦-195等機型的設計認證。加快引進、吸收、轉化國際領先技術，同西門子歌美颯在上海進博會簽訂合作諒解備忘錄，在11兆瓦海機開展技術轉讓、生產製造、質量保證體系、運維維護全面協同合作，助力深度參與海上風電市場競爭。

## MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED) 管理層討論與分析(續)

The Group has comprehensively improved quality services. The Group adhered to the goal-oriented method, systematically formulated 10 core quality targets such as malfunction rate and troubleshooting time of wind turbines, with an annual malfunction rate of 0.005 occurrence per unit per day, a year-on-year decrease of 37.5%. The Company accelerated service response, improved customer service satisfaction, the average daily malfunction downtime of a single unit is 0.31 hours per unit per day, representing a year-on-year decrease of 6.1%.

### Stable Performance in Domestic Market

In 2021, the Group received new orders valuing RMB16.259 billion in total, representing a year-on-year increase of 17.05% and an increase of 14.73% compared with the average value of new orders during the 13th Five Year Plan period, showing stably improved performances. To be specific:

- The performance in thermal power market was stable. The Group received new orders valuing RMB9,558 million in total in the year, accounting for 58.79% of its total new order value.
  - ▶ Longyuan Environmental won the bidding for the new desulfuration EPC project of Guoneng Qingyuan Power Generation Co., Ltd.\* and Guoneng Guangtou Beihai Power Generation Co., Ltd.\*, with a contract amount of about RMB301 million;
  - ▶ Guoneng Long Yuan Power Technology & Engineering Co., Ltd.\* (“**Longyuan Engineering**”) won the bidding for the phase-II power plant EPC project of Guodian Power Shuangwei Inner Mongolia Shanghaimiao Energy Co., Ltd.\*, with a contract amount of RMB4,536 million.
  - ▶ Guoneng Zhishen won the bidding for the full-factory field bus DCS and intelligent power generation project of Guodian Power Shuangwei Inner Mongolia Shanghaimiao Energy Co., Ltd.\*, beginning the application of iDCS, an all domestically developed intelligent control system, in a 1000MW-class power unit.

本集團全面提升質量服務。堅持目標導向，統籌制定風機故障率、故障處理時間等10項核心質量目標，在運風機年度故障率為0.005次/台·天，同比減少37.5%。加快服務響應速度，提高客戶服務滿意度，日均單台故障停機時間0.31小時/台·天，同比減少6.1%。

### 國內市場業績穩步提升

2021年，本集團合計新簽訂單人民幣162.59億元，同比增加17.05%，相比於「十三五」同期新簽訂單均值增加14.73%，市場業績穩步提升。其中：

- 火電市場業績穩定。本集團火電市場全年新簽訂單人民幣95.58億元，佔比58.79%。
  - ▶ 龍源環保簽約國能清遠發電有限責任公司、國能廣投北海發電有限公司新建工程脫硫EPC總承包項目，合同金額合計約人民幣3.01億元；
  - ▶ 國能龍源電力技術工程有限責任公司(「**龍源工程**」)簽約國能電力雙維內蒙古上海廟能源有限公司二期電站EPC總承包項目，合同金額約人民幣45.36億元；
  - ▶ 國能智深簽約國能電力雙維內蒙古上海廟能源有限公司全廠現場總線DCS和智能發電項目，實現全國產化智能控制系統iDCS在百萬機組上的應用。

## MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

### 管理層討論與分析(續)

- The new energy market was continuously expanded. The Group won new energy orders of RMB4,827 million in the year, accounting for 29.69% of the total.
  - Longyuan Environmental and Longyuan Energy Conservation set foot in the photovoltaic market for the first time, winning contracts of RMB220 million and RMB250 million, respectively.
  - Guoneng I&C entered into its first 10MW offshore variable-pitch wind turbine contract with a new client Taiyuan Heavy Industry New Energy Equipment Co., Ltd.\*
- The new markets were continuously boosted. The Group entered into new contracts in new markets like coal and coal chemical industry, reporting contract amount of RMB1,739 million. The Group signed strategic cooperation framework agreements with Wuhai City, Kunshan City and many internal and external entities, to vigorously advance the comprehensive energy service business.
  - Longyuan Technology made actively efforts in the metallurgical cement market, with an annual contract amount of RMB113 million, and won the first environmental protection transformation project in the cement industry – the ultra-low emission transformation and cement kiln denitrification SCR project of Shanxi Jin Brand Cement Group.
  - Guoneng I&C won the bidding for the standard setting project for smart mine construction of Guodian Construction & Investment Inner Mongolia Energy Co., Ltd.\*, marking its new breakthrough in the coal industry.
  - Lucency contracted the domestic sewage station transformation EPC project for Hongshaquan and Heishan open coal mines of China Energy Xinjiang Energy Co., Ltd.\*, laying a solid foundation for its full entry into the coal and coal chemical industry operation and maintenance markets.
- 新能源市場不斷開拓。本集團新能源市場全年新簽訂單人民幣48.27億元，佔比29.69%。
  - 龍源環保、龍源節能首次進入光伏市場，光伏項目合同金額分別約人民幣2.2億元、人民幣2.5億元；
  - 國能信控簽訂首個10MW大型海上風機變漿項目，成功拓展新客戶—太原重工新能源裝備有限公司。
- 新市場持續推進。本集團煤炭、煤化工等新市場全年新簽訂單人民幣17.39億元。本集團與烏海市、昆山市以及多個集團內外單位簽訂戰略合作框架協議，積極推動綜合能源服務業務的開展。
  - 龍源技術全力拓展冶金水泥行業市場，全年合同金額約人民幣1.13億元，並成功取得首個水泥行業環保改造業績—山西晉牌水泥集團有限公司超低排放改造水泥窯脫硝SCR項目；
  - 國能信控簽約國電建投內蒙古能源有限公司智慧礦山建設規範編製項目，實現了在煤炭行業的新突破；
  - 朗新明簽約國家能源集團新疆能源有限責任公司紅沙泉及黑山露天煤礦生活污水站提質改造項目EPC總承包工程，為全面進軍煤炭、煤化工運維市場打下堅實基礎。

## MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED) 管理層討論與分析(續)

### Continuous Expansion in Overseas Market

In 2021, despite the rampant global pandemic and frequent regional conflicts, we managed to steadily run our main business, make major efforts in the target markets and steadily further overseas business:

- Longyuan Environmental won a wet desulfurization project in Indonesia, and its environmental protection transformation projects in Bangladesh and Taiwan of China entered the installation and debugging stages, respectively.
- Longyuan Technology explored Russia, Thailand and Laos for market opportunities, and made stable progress in the energy-saving transformation projects in Indonesia, Turkey and Zimbabwe. Among them, the plasma modification EPC project it undertook for Zimbabwe Power Company entered the delivery stage.
- Guodian United Power Technology Co., Ltd. (“**United Power**”) went on providing operation and maintenance services for the De Aar wind power project in South Africa in the charge of China Longyuan Power Group Corporation Limited\* (“**Longyuan Power**”), making an outstanding contribution to the power supply of the local place.
- The automation project for a thermal power plant in Pakistan undertaken by Guoneng Zhishen entered the equipment installation and debugging stages, paving path to the application of automatic control systems in Southeast Asia and South Asia.
- The project of supplying desalination equipment to a Pakistani power plant in the charge of Lucency has finished the equipment delivery.

### 持續拓展海外市場

2021年，在全球疫情肆虐，安全衝突頻發的情況下，本公司堅持聚焦主業，持續深耕目標市場，穩步推進海外業務：

- 龍源環保簽署印尼某濕法脫硫項目，孟加拉、中國台灣地區環保改造項目相繼進入安裝調試階段；
- 龍源技術探索俄羅斯、泰國、老撾市場機遇，穩妥執行印尼、土耳其、津巴布韋節能改造項目，其中津巴布韋電力公司等離子改造EPC項目進入交付階段；
- 國電聯合動力技術有限公司(「**聯合動力**」)繼續執行龍源電力集團股份有限公司(「**龍源電力**」)南非德阿項目後續運維服務，為保障南非當地電力供應做出傑出貢獻；
- 國能智深執行的巴基斯坦某燃煤電站自動化項目進入設備安裝調試階段，為自動化控制系統深入東南亞、南亞市場打下堅實基礎；
- 朗新明的巴基斯坦電廠海水淡化設備供貨項目完成設備交付。

# MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

## 管理層討論與分析(續)

### ANALYSIS OF 2021 FINANCIAL RESULTS

Please read this section in conjunction with the consolidated financial statements of the Group for the year ended 31 December 2021.

### ANALYSIS ON CONSOLIDATED RESULTS

#### Revenue

Consolidated revenue of the Group for the year ended 31 December 2021 was approximately RMB12,073.3 million, representing a decrease of approximately RMB3,551.2 million, or 22.7% as compared with approximately RMB15,624.5 million in 2020. As compared with 2020, revenue from wind power products and services decreased by approximately RMB2,531.8 million, or 43.7%, which was mainly due to the fall of wind power “rush of installation tide”, and the disposal of United Power which was no longer consolidated into the consolidated financial statements of the Group since October 2021, leading to a decrease in revenue from wind power products. The revenue of energy-saving solutions business decreased by approximately RMB561.0 million, or 12.3%, mainly due to the decrease of revenue from general contracting business line of wind power plant construction caused by the fall of wind power “rush of installation tide”.

The following table sets out the Group's revenues by segment and as a percentage of the total revenue of the Group as at 31 December 2021 and 2020, respectively:

### 2021年財務業績分析

閱讀本節時請一併閱讀截至2021年12月31日止本集團的合併財務報表。

### 合併業績分析

#### 收入

本集團截至2021年12月31日止合併收入約為人民幣12,073.3百萬元，與2020年同期的約人民幣15,624.5百萬元相比，減少約人民幣3,551.2百萬元或22.7%。與2020年同期相比，風電產品及服務業務收入減少約人民幣2,531.8百萬元，降幅約43.7%，主要由於風電搶裝潮回落和聯合動力處置後自2021年10月不再納入集團合併報表，風機銷售收入減少所致；節能業務方案收入減少約人民幣561.0百萬元或12.3%，亦由於風電搶裝潮回落，車站建設總承包業務線收入減少所致。

下表分別載列截至2021年及2020年12月31日止按分部劃分的本集團收入及其佔本集團合併收入的百分比：

		2021	%	2020	%
		(RMB million)		(RMB million)	
		(人民幣百萬元)		(人民幣百萬元)	
<b>Environmental protection and Energy conservation solutions:</b>	<b>環保及節能解決方案：</b>				
Environmental protection solutions	環保解決方案	4,245.9	35.2	4,779.9	30.6
Energy conservation solutions	節能解決方案	4,004.9	33.1	4,565.9	29.2
<b>Total</b>	<b>合計</b>	<b>8,250.8</b>	<b>68.3</b>	<b>9,345.8</b>	<b>59.8</b>
<b>Renewable energy equipment manufacturing and services:</b>	<b>可再生能源設備製造及服務：</b>				
Wind power products and services	風電產品及服務	3,257.7	27.0	5,789.5	37.1
Others	其他	564.8	4.7	489.2	3.1
<b>Total</b>	<b>總計</b>	<b>12,073.3</b>	<b>100.0</b>	<b>15,624.5</b>	<b>100.0</b>

# MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

## 管理層討論與分析(續)

### COST OF SALES

As at the end of 31 December 2021, consolidated cost of sales for the Group amounted to approximately RMB11,352.7 million, representing a decrease of approximately RMB1,316.9 million or 10.4%, as compared to that in 2020 of approximately RMB12,669.6 million. The decrease was primarily due to that, firstly, the wind turbines production has gradually transformed to the large MW models, and the cost per unit of wind turbines production increased at the transformation stage; secondly, the recognition cost of parts of the wind turbines components in this period were purchased during the "rush of installation tide", and the cost was relatively high.

The following table sets out the Group's gross profit and gross profit margin by segment for the years ended 31 December 2021 and 2020, respectively:

### 銷售成本

本集團截至2021年12月31日止合併銷售成本約為人民幣11,352.7百萬元，較2020年同期的約人民幣12,669.6百萬元減少約人民幣1,316.9百萬元或10.4%，主要原因一是風機生產逐漸向大兆瓦機型轉變，轉產階段風機生產單位成本上升；二是本期確認成本的部分風機大部件為搶裝潮期間採購，成本較高。

下表分別載列截至2021年及2020年12月31日止按分部劃分的本集團銷售成本及其佔本集團合併銷售成本的百分比：

		2021		2020	
		(RMB million)	%	(RMB million)	%
		(人民幣百萬元)		(人民幣百萬元)	
<b>Environmental protection and Energy conservation solutions:</b>	<b>環保及節能解決方案：</b>				
Environmental protection solutions	環保解決方案	3,554.9	31.3	3,526.5	27.8
Energy conservation solutions	節能解決方案	4,070.3	35.9	4,238.2	33.5
Total	合計	7,625.2	67.2	7,764.7	61.3
<b>Renewable energy equipment manufacturing and services:</b>	<b>可再生能源設備製造及服務：</b>				
Wind power products and services	風電產品及服務	3,375.6	29.7	4,630.0	36.5
Others	其他	351.9	3.1	274.9	2.2
Total	總計	11,352.7	100.0	12,669.6	100.0

## MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

### 管理層討論與分析(續)

#### GROSS PROFIT AND GROSS PROFIT MARGIN

For the foregoing reasons, gross profit of the Group in 2021 amounted to approximately RMB720.5 million, representing a decrease of approximately RMB2,234.4 million, or 75.6%, as compared to that in 2020 of approximately RMB2,954.9 million. The average gross profit margin significantly decreased from 18.9% in 2020 to 6.0% in the corresponding period in 2021. The decrease in gross profit margin was mainly due to the significant decrease in the gross profit margin of the general contracting business of power station construction and wind power products and services business.

The following table sets out the Group's gross profit and gross profit margin by segment for the years ended 31 December 2021 and 2020, respectively:

#### 毛利及毛利率

鑒於上述原因，本集團2021年的毛利約為人民幣720.5百萬元，與2020年的約人民幣2,954.9百萬元相比減少約人民幣2,234.4百萬元或75.6%，平均毛利率從2020年的18.9%大幅減少至2021年同期的6.0%。本集團毛利率的減少主要由於節能解決方案中的電站建設總承包業務及風電產品及服務業務的毛利率大幅下降。

下表分別載列截至2021年及2020年12月31日止按分部劃分的本集團毛利和毛利率：

		2021	%	2020	%
		(RMB million)		(RMB million)	
		(人民幣百萬元)		(人民幣百萬元)	
<b>Environmental protection and Energy conservation solutions:</b>	<b>環保及節能解決方案：</b>				
Environmental protection solutions	環保解決方案	690.9	16.3	1,253.4	26.2
Energy conservation solutions	節能解決方案	(65.4)	(1.6)	327.6	7.2
<b>Renewable energy equipment manufacturing and services:</b>	<b>可再生能源設備製造及服務：</b>				
Wind power products and services	風電產品及服務	(117.9)	(3.6)	1,159.6	(20.0)
Others	其他	212.9	37.7	214.3	43.8
<b>Total</b>	<b>總計</b>	<b>720.5</b>	<b>6.0</b>	<b>2,954.9</b>	<b>18.9</b>

#### Other revenue

Other revenue of the Group decreased by approximately RMB56.7 million, or 18.0%, from approximately RMB315.3 million for 2020 to approximately RMB258.6 million for 2021, which was primarily due to the decrease in the government grants and the dividend income from unlisted equity investment.

#### 其他收入

2021年本集團其他收入約人民幣258.6百萬元，較2020年的約人民幣315.3百萬元減少約人民幣56.7百萬元或18.0%，主要原因是本年收到的政府補助和非上市權益投資股息收入減少。



## MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED) 管理層討論與分析(續)

### OTHER INCOME

Other income of the Group for 2021 was approximately RMB1,022.2 million, while other income for 2020 was approximately RMB22.7 million, representing an increase of approximately RMB999.5 million, or 4,403.1%, which was primarily due to the recognition of investment income approximately amounting to RMB1,091.5 million related to the disposal of United Power in 2021.

### OTHER EXPENSES

Other expenses of the Group decreased by approximately RMB100.6 million or 90.3%, which was mainly due to the compensations accrued for two arbitrations, Huajian Water and Laiyuan Suntien in the year of 2020.

### SELLING AND DISTRIBUTION EXPENSES

Selling and distribution expenses of the Group decreased by approximately RMB301.8 million or 27.6%, from approximately RMB1,094.9 million for 2020 to approximately RMB793.1 million for 2021, which was primarily due to the disposal of United Power, which has significant selling and distribution expense, was no longer consolidated into the consolidated financial statements of the Group from October of 2021.

### ADMINISTRATIVE EXPENSES

Administrative expenses of the Group increased by approximately RMB479.3 million or 34.7%, from approximately RMB1,380.4 million for 2020 to approximately RMB1,859.7 million for 2021, which was mainly due to provision of the expected credit losses, and the increase of social insurance premium which caused by the end of the preferential policy social insurance premium in 2021.

### OPERATING (LOSS)/PROFIT

As a result of the foregoing factors the operating loss of the Group for 2021 is approximately RMB662.3 million, while the operating profit of the Group for 2020 was approximately RMB706.3 million.

### 其他收益

2021年本集團其他收益約人民幣1,022.2百萬元，較2020年的約人民幣22.7百萬元增加約人民幣999.5百萬元或4,403.1%，主要由於2021年本公司確認處置聯合動力相關的投資收益約人民幣1,091.5百萬元。

### 其他費用

本集團其他費用減少約100.6百萬元或90.3%，主要是去年為華建水務及涇源新天兩項仲裁計提的其他應付款項。

### 銷售及分銷開支

2021年本集團銷售及分銷開支約人民幣793.1百萬元，較2020年的約人民幣1,094.9百萬元減少約人民幣301.8百萬元或27.6%，主要是由於聯合動力被處置，其有重大金額的銷售及分銷開支，從2021年10月起不再納入本集團合併範圍。

### 行政開支

2021年本集團行政開支約人民幣1,859.7百萬元，較2020年的約人民幣1,380.4百萬元增加約人民幣479.3百萬元或34.7%，主要是由於2021年計提預期信用損失，以及因社會保險費減免政策在2021年結束導致行政開支增加。

### 經營(虧損)/利潤

鑒於上述原因，本集團2021年的經營虧損為約人民幣662.3百萬元，而2020年的經營利潤為約人民幣706.3百萬元。

## MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

### 管理層討論與分析(續)

#### FINANCE COSTS

Finance costs of the Group decreased by approximately RMB149.2 million, or 26.0%, from approximately RMB573.7 million for 2020 to approximately RMB424.5 million for 2021, which was mainly due to the decrease of interest expenses of bank and other loans resulting from the decrease in borrowings.

#### (LOSS)/PROFIT BEFORE TAXATION

As a result of foregoing factors, loss before taxation of the Group is RMB1,101.9 million for 2021, and profit before taxation of the Group was RMB204.9 million for 2020, decreased by approximately RMB1,306.8 million or 637.8%.

#### INCOME TAX

Income tax decreased by approximately RMB141.7 million or 56.8% as compared to last year resulting from the decrease of current income tax of approximately RMB168.0 million and the increase of deferred income tax of RMB26.4 million. The decrease of current income tax was mainly attributable to the decrease in demand for new construction or renovation of thermal power environmental protection facilities and the fall of "rush of installation tide" of wind turbines during the year of 2021, resulting in a decrease in current taxable profit for the environmental protection, wind power and energy-efficient power plant business.

#### LOSS FOR THE YEAR

As a result of the foregoing factors, the Group recorded loss for the year of approximately RMB1,209.7 million in 2021, increased by approximately RMB1,165.3 million, or 2,624.5%, compared with a loss of RMB44.4 million in 2020.

#### LOSS ATTRIBUTABLE TO NON-CONTROLLING INTERESTS

Loss attributable to non-controlling interests of the Group increased by approximately RMB268.5 million, from approximately RMB101.6 million for 2020 to approximately RMB370.1 million for 2021, which was mainly due to the increase of the loss of United Power in which the Company has the material non-controlling interests.

#### (LOSS)/PROFIT ATTRIBUTABLE TO EQUITY SHAREHOLDERS OF THE COMPANY

As a result of the foregoing factors, loss attributable to equity shareholders of the Company was approximately RMB839.6 million for 2021, and the profit attributable to equity shareholders of the Company was approximately RMB57.1 million for 2020.

#### 財務成本

2021年本集團財務成本約人民幣424.5百萬元，較2020年的約人民幣573.7百萬元減少約人民幣149.2百萬元或26.0%，主要是由於2021年度借款較去年減少，銀行及其他借款利息支出減少。

#### 稅前(虧損)/利潤

鑒於上述原因，本集團從2020年的稅前利潤約人民幣204.9百萬元，2021年的稅前虧損約人民幣1,101.9百萬元，稅前虧損增加約人民幣1,306.8百萬元或637.8%。

#### 所得稅

本集團所得稅費用較去年減少約人民幣141.7百萬元或56.8%，主要是由於當期所得稅費用減少約人民幣168.0百萬元，遞延所得稅費用增加人民幣26.4百萬元。本年當期所得稅費用減少主要由於本年火電環保設施的新建或改造需求減少和風機搶裝潮回落，導致環保、風電和節能電站業務的當期應納稅利潤減少所致。

#### 本年虧損

鑒於上述原因，2021年本集團錄得虧損為約人民幣1,209.7百萬元，較2020年的約人民幣44.4百萬元，增加約人民幣1,165.3百萬元或2,624.5%。

#### 非控股權益應佔虧損

本集團非控股權益應佔虧損由2020年的約人民幣101.6百萬元增加至2021年的約人民幣370.1百萬元，增加約人民幣268.5百萬元，主要由於聯合動力虧損增加所致，本公司在其擁有重大非控股權益。

#### 本公司權益股東應佔(虧損)/利潤

鑒於上述原因，本公司2021年的權益股東應佔虧損為約人民幣839.6百萬元，而2020年的權益股東應佔利潤為約人民幣57.1百萬元。

# MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

## 管理層討論與分析(續)

### ANALYSIS OF SEGMENT RESULTS

### 分部業績分析

The following table sets out the Group's revenue, gross profit and operating (loss)/profit of each business segment as a percentage of the total revenue, gross profit and operating (loss)/profit of the Group as at 31 December 2021 and 2020, respectively:

下表分別載列截至2021年及2020年12月31日止本集團的分部收入、毛利和經營(虧損)/利潤以及各自佔相關期間本集團收入、毛利和經營(虧損)/利潤總額的百分比：

		2021	%	2020	%
		(RMB million)		(RMB million)	
		(人民幣百萬元)		(人民幣百萬元)	
Environmental protection and energy conservation solutions	環保及節能解決方案				
Environmental protection solutions:	環保解決方案：				
Revenue	收入	4,245.9	35.2	4,779.9	30.6
Gross profit	毛利	690.9	95.9	1,253.4	42.4
Operating profit	經營利潤	90.1	(13.7)	736.5	104.4
Energy conservation solutions:	節能解決方案：				
Revenue	收入	4,004.9	33.2	4,565.9	29.2
Gross profit	毛利	(65.4)	(9.1)	327.6	11.1
Operating (loss)/profit	經營(虧損)/利潤	(394.4)	59.8	137.0	19.4
Renewable energy equipment wind power products and services:	可再生能源設備風電產品及服務：				
Revenue	收入	3,257.7	27.0	5,789.5	37.1
Gross profit	毛利	(117.9)	(16.4)	1,159.6	39.2
Operating loss	經營虧損	(1,265.5)	192.0	(253.3)	(35.9)

### ENVIRONMENTAL PROTECTION AND ENERGY CONSERVATION SOLUTIONS

### 環保及節能解決方案

#### Environmental protection solutions

#### 環保解決方案

#### Revenue

#### 收入

Revenue from the environmental protection business decreased by approximately RMB534.0 million or 11.2%, from approximately RMB4,779.9 million for 2020 to approximately RMB4,245.9 million for 2021. On the one hand, due to the national policies on atmospheric treatment and emission reduction, the market of desulphurisation and denitrification EPC has shrunk, and the large-scale construction of desulphurisation and denitrification were basically completed, resulting in the decrease of the number of corresponding construction projects of power plants and the income of desulphurisation/denitrification EPC business; on the other hand, the income of water treatment business decreased, which was due to the completion progress of EPC project of off-site expansion and transformation of desulphurisation wastewater treatment system of Guodian Zhejiang Beilun No. 1 Power Generation Co., Ltd.\*, and the comprehensive wastewater treatment transformation project of the whole plant of Guodian Qingshan Thermal Power Co., Ltd.\* reached over 90% in 2020, and the revenue recognised in 2021 was lower compared with the previous year.

環保業務收入從2020年的約人民幣4,779.9百萬元減少至2021年的約人民幣4,245.9百萬元，減少約人民幣534.0百萬元或11.2%。這一方面是由於國家大氣治理、減排等政策，脫硫脫硝EPC市場萎縮，同時脫硫脫硝的大規模建造已經基本結束，導致相應的電廠建造項目減少，脫硫/脫硝EPC業務收入有所減少；另一方面水處理業務收入減少，這是由於國電浙江北侖第一發電有限公司脫硫廢水處理系統異地擴建改造EPC項目、國電青山熱電有限公司全廠廢水綜合治理改造工程等多個項目在2020年度完工進度均已達到90%以上，2021年確認收入較上年減少。

## MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

### 管理層討論與分析(續)

The following table sets out the revenues from each business line of the Group's environmental protection business, each as a percentage of the revenue from this business, for the years as at 31 December 2021 and 2020, respectively:

下表分別載列截至2021年及2020年12月31日止本集團環保業務中各業務線的收入，以及各自佔該業務收入的百分比。

		2021 (RMB million) (人民幣百萬元)	%	2020 (RMB million) (人民幣百萬元)	%
Desulfurisation	脫硫	1,884.5	44.4	2,340.9	49.0
Denitrification	脫硝	801.3	18.9	943.3	19.7
Low NO <sub>x</sub> combustion equipment	低氮燃燒設備	132.2	3.1	59.9	1.3
Water treatment	水處理	1,120.6	26.4	1,151.4	24.1
Ash removal	除塵	184.5	4.3	169.0	3.5
Coal yard renovation and smoke plume treatment	煤場改造及煙羽治理	102.2	2.4	115.4	2.4
Sludge disposal	污泥處置	20.6	0.5	-	-
Total	總計	4,245.9	100.0	4,779.9	100.0

#### Cost of sales

Cost of sales for the environmental protection business of the Group increased by approximately RMB28.4 million or 0.8%, from approximately RMB3,526.5 million for 2020 to approximately RMB3,554.9 million for 2021. It was mainly due to that the traditional business shrunk, the environmental protection sector still need to work hard to develop new business, and it takes quite a long time to nurture new business, while the cost of developing new markets is higher.

#### 銷售成本

本集團環保業務的銷售成本從2020年的約人民幣3,526.5百萬元增加至2021年的約人民幣3,554.9百萬元，相比增加了28.4百萬元或0.8%。主要是由於傳統業務萎縮，環保板塊需努力開展新業務，而新業務的培育落地需相當時間，同時開展新市場成本較高。

#### Gross profit and gross profit margin

As a result of the foregoing reasons, gross profit attributable to the environmental protection business decreased by approximately RMB562.5 million, or 44.9%, from approximately RMB1,253.4 million for 2020 to approximately RMB690.9 million for 2021. Average gross profit margin for this business decreased from 26.2% in 2020 to 16.3% in 2021.

#### 毛利及毛利率

鑒於上述原因，環保業務的毛利從2020年的約人民幣1,253.4百萬元減少至2021年的約人民幣690.9百萬元，減少約人民幣562.5百萬元或44.9%。此業務平均毛利率從2020年的26.2%降低至2021年的16.3%。

The following table sets out the changes of the gross profit margin for the business lines comprising the Group's environmental protection business as at 31 December 2021 compared with that as at 31 December 2020:

下表載列截至2021年12月31日止年度本集團環保業務各業務線毛利率與截至2020年12月31日止年度間變化：

		2021 (%)	2020 (%)
Desulfurisation	脫硫	13.2	22.9
Denitrification	脫硝	27.3	39.9
Low NO <sub>x</sub> combustion equipment	低氮燃燒設備	18.2	19.2
Water treatment	水處理	12.6	25.4
Ash removal	除塵	26.0	21.6
Coal yard renovation and smoke plume treatment	煤場改造及煙羽治理	17.5	11.5
Sludge disposal	污泥處置	14.4	-

## MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

### 管理層討論與分析(續)

#### ENERGY CONSERVATION SOLUTIONS

##### Revenue

Revenue attributable to the energy conservation solutions business decreased by approximately RMB561.0 million or 12.3%, from approximately RMB4,565.9 million for 2020 to approximately RMB4,004.9 million for 2021. Among them, the revenue of general contracting business line of power station construction decreased significantly, which was mainly due to the fall of the “rush of installation tide” this year, resulting in the obvious decrease in the number of orders compared with 2020 which led to the decrease in the revenue.

The following table sets out the revenues from the business lines of the Group's energy conservation business, each as a percentage of revenue from this business as at 31 December 2021 and 2020, respectively:

		2021		2020	
		(RMB million)	%	(RMB million)	%
		(人民幣百萬元)		(人民幣百萬元)	
Plasma-assisted coal ignition and combustion stabilization	等離子體點火及穩燃	283.0	7.1	199.2	4.4
Energy conservation service	節能服務	275.1	6.9	300.6	6.6
General contracting for power stations	電站建設總承包	3,412.3	85.2	4,055.5	88.8
Comprehensive utilization and renovation of boiler	鍋爐綜合利用改造	34.5	0.8	10.6	0.2
<b>Total</b>	<b>總計</b>	<b>4,004.9</b>	<b>100.0</b>	4,565.9	100.0

##### Cost of sales

The cost of sales of the Group's energy conservation solutions business decreased from approximately RMB4,238.2 million in 2020 to approximately RMB4,070.3 million in 2021, representing a decrease of RMB167.9 million or 4.0%, which was mainly due to the time gap between order signing and project implementation. The craned, high-voltage cabinet and other equipment in the wind power station used in the implementation of the project this year were purchased during the “rush of installation tide”, and the cost was significantly higher than expected at the time of order signing.

#### 節能解決方案

##### 收入

節能業務收入從2020年的約人民幣4,565.9百萬元減少至2021年的約人民幣4,004.9百萬元，減少約人民幣561.0百萬元或12.3%。其中電站建設總承包業務線收入大幅減少，因本年「搶裝潮」回落，訂單較2020年明顯下降，導致收入隨之下降。

下表分別載列截至2021年及2020年12月31日止本集團節能業務中各業務線的收入，以及各自佔業務收入的百分比。

##### 銷售成本

本集團節能業務的銷售成本從2020年的約人民幣4,238.2百萬元減少至2021年的約人民幣4,070.3百萬元，減少約人民幣167.9百萬元或4.0%，成本較收入減少幅度較小，這是由於訂單簽署與項目執行間存在時間差，本年執行項目使用的風電場吊車、高壓櫃等設備採購於搶裝潮期間，成本較訂單簽署時的預期大幅上漲導致。

## MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

### 管理層討論與分析(續)

#### Gross profit and gross profit margins

As a result of the foregoing factors, gross profit attributable to the energy conservation solutions business decreased significantly by approximately RMB393.0 million or 120.0%, from approximately RMB327.6 million for 2020 to gross loss of approximately RMB65.4 million for 2021. The average gross profit margin of the business decreased significantly from 7.2% in 2020 to -1.6% in 2021, which was mainly due to the decrease in gross profit margin of the general contracting business line for power station construction, which accounted for a large proportion of the revenue.

The following table sets out the changes in gross profit margins for the business lines comprising the Group's energy conservation business as at 31 December 2021 compared with that as at 31 December 2020:

		2021 (%)	2020 (%)
Plasma-assisted coal ignition and combustion stabilisation	等離子體點火及穩燃	21.3	28.3
Energy conservation services	節能服務	16.5	38.7
General contracting for power stations	電站建設總承包	(5.1)	3.9
Comprehensive utilization and renovation of boiler	鍋爐綜合利用改造	17.1	(21.4)

#### 毛利及毛利率

鑒於上述原因，節能業務的毛利從2020年的約人民幣327.6百萬元大幅下降至2021年毛虧約人民幣65.4百萬元，減少約人民幣393.0百萬元或120.0%。此業務平均毛利率從2020年的7.2%大幅減少至2021年的-1.6%，這主要是由於收入佔比較大的電站建設總承包業務線的毛利率下降所致。

下表載列截至2021年12月31日止構成本集團節能業務的業務線毛利率與截至2020年12月31日止相比的變化：

#### Renewable Energy Equipment Manufacturing and Services

##### Wind power products and services

##### Revenue

Revenue attributable to the wind power products and services business decreased by approximately RMB2,531.8 million, or 43.7%, from approximately RMB5,789.5 million for 2020 to approximately RMB3,257.7 million for 2021. The decrease in the revenue was mainly attributable to the decline in the sales volume of wind turbines. The domestic wind power industry was greatly affected by the policy. Affected by the "rush of installation tide" in 2020, the Group accelerated the implementation of the wind turbine sales contract, and the vast majority of the projects connected to the grid before the end of 2020, so the revenue of the Group was at a relative high level in 2020. With the gradual fall of the "rush of installation tide", there were fewer wind power projects in 2021, and the decrease in sales led to a significant drop in revenue as compared with the previous year.

#### 可再生能源設備製造及服務

##### 風電產品及服務

##### 收入

風電產品及服務業務的收入從2020年的約人民幣5,789.5百萬元減少至2021年的約人民幣3,257.7百萬元，減少約人民幣2,531.8百萬元或43.7%，減少的主要原因是由於風機銷售數量下降所致。國內風電行業受政策影響很大，2020年受搶裝潮影響，本集團加快了風機銷售合同的履約進度，絕大多數在手項目集中搶在2020年底併網，因此在2020年本集團收入也為較高水平。隨著搶裝潮逐漸回落，2021年履行風電項目數量較少，銷量減少導致收入較上年明顯降低。

## MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

### 管理層討論與分析(續)

#### Cost of sales

Cost of sales attributable to the wind power products and services business decreased by approximately RMB1,254.4 million or 27.1%, from approximately RMB4,630.0 million for 2020 to approximately RMB3,375.6 million for 2021. The decrease was primarily due to that, firstly, the wind turbines production has gradually transformed to the large MW models, and the cost per unit of wind turbines production increased at the transformation stage; secondly, the recognition cost of parts of the wind turbines components in this period were purchased during the "rush of installation tide", and the cost was relatively high.

#### Gross profit and gross profit margin

As a result of the foregoing factors, gross profit attributable to the wind power products and services business decreased by approximately RMB1,277.5 million or 110.2%, from approximately RMB1,159.6 million for 2020 to gross loss of approximately RMB117.9 million for 2021. Gross profit margin for this business decreased significantly from 20.0% for 2020 to -3.6% for 2021.

#### LIQUIDITY AND SOURCE OF CAPITAL

In 2021, the Group's cash is mainly used in business operations and the repayment of bank borrowings due.

The following table sets out the net cash flows of the Group as at 31 December 2021 and 2020, and the cash and cash equivalents as at 31 December 2021 and 2020, respectively:

		2021 (%)	2020 (%)
Net cash (used in)/generated from operating activities	經營活動(使用)/產生之現金淨額	<b>(409.0)</b>	1,816.0
Net cash generated from/(used in) investing activities	投資活動產生/(使用)之現金淨額	<b>951.0</b>	(107.4)
Net cash used in financing activities	融資活動使用之現金淨額	<b>(778.4)</b>	(478.0)
Cash and cash equivalents as at 31 December	於12月31日的現金及現金等價物	<b>4,136.8</b>	4,373.2

#### 銷售成本

風電產品及服務業務的銷售成本從2020年的約人民幣4,630.0百萬元減少至2021年的約人民幣3,375.6百萬元，減少約人民幣1,254.4百萬元或27.1%，主要原因一是風機生產逐漸向大兆瓦機型轉變，轉產階段風機生產單位成本上升；二是本期確認成本的部分風機大部件為搶裝潮期間採購，成本較高。

#### 毛利及毛利率

鑒於上述原因，風電產品及服務業務的毛利從2020年的約人民幣1,159.6百萬元下降至2021年毛虧約人民幣117.9百萬元，減少約人民幣1,277.5百萬元或110.2%。此業務2021年的毛利率為-3.6%，比2020年同期的20.0%相比大幅下降。

#### 流動資金和資本來源

2021年本集團的現金主要供業務經營及償還到期銀行借款之用。

下表分別載列截至2021年及2020年12月31日止年度本集團的現金流量淨額及於2021年及2020年12月31日本集團的現金及現金等價物：

## MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

### 管理層討論與分析(續)

#### Net cash (used in)/generated from operating activities

Net cash (used in) the Group's operating activities for 2021 was approximately RMB409.0 million, as compared to the net cash generated from the Group's operating activities of approximately RMB1,816.0 million for 2020, which was mainly due to the significant increase in the payment of the Group for the procurement of wind power equipment and materials in this year.

#### Net cash generated from/(used in) investing activities

Net cash generated from the Group's investing activities for 2021 was approximately RMB951.0 million, while the net cash used in the Group's investing activities of approximately RMB107.4 million for 2020. The increase in the net cash generated from investing activities was mainly due to the disposal of equity investment of Tianjin Zhonghuan Semiconductor Co.,Ltd. ("Zhonghuan Semiconductor").

#### Net cash used in financing activities

Net cash used in the Group's financing activities for 2021 increased by approximately RMB300.4 million as compared with the previous year, which was mainly due to the repayment of private placement notes and borrowings during the year.

#### Working capital

As at 31 December 2021, the Group's cash and cash equivalents were approximately RMB4,136.8 million in total, representing a decrease of approximately RMB236.4 million, as compared to approximately RMB4,373.2 million for 2020. As at 31 December 2021, the Group had total unutilized bank facilities of approximately RMB7,580.3 million.

The Group's liability-to-asset, which is calculated as total liabilities divided by total assets, decreased from 77.9% as at 31 December 2020 to 65.3% as at 31 December 2021.

The Group's net liability-to-asset (including the cash and cash equivalent deducted in the other interest-bearing payables, interest-bearing borrowings, and lease liabilities), which is calculated as total net liabilities divided by total equity and total net liabilities, was 19.6% as at 31 December 2021 (31 December 2020: 45.1%).

Based on the existing cash resources and unutilized bank credit facilities, the Directors are of the view that the Group will have sufficient working capital to support current demand and daily operations for the coming 12 months.

#### 經營活動(使用)/產生之現金淨額

本集團2021年經營活動使用的現金淨額約為人民幣409.0百萬元，而2020年本集團經營活動產生的現金淨額約為人民幣1,816.0百萬元。經營活動使用的現金淨額增加主要是因為本集團本年支付的風電設備材料採購款項大幅增加所致。

#### 投資活動產生/(使用)之現金淨額

本集團2021年投資活動產生的現金淨額約為人民幣951.0百萬元，而2020年的投資活動使用的現金淨額約為人民幣107.4百萬元。投資活動產生的現金淨額增加主要是由於本集團處置天津中環半導體股份有限公司(「中環股份」)之股份現金流入所致。

#### 融資活動使用之現金淨額

本集團2021年融資活動使用的現金淨額較2020年增加約為人民幣300.4百萬元，主要是因為本年度償還私人配售債務融資工具及償還借款導致。

#### 運營資金

於2021年12月31日，本集團的現金以及現金等價物總計約為人民幣4,136.8百萬元，與2020年的約人民幣4,373.2百萬元相比，減少約人民幣236.4百萬元。於2021年12月31日，本集團尚未使用的銀行信貸總計約為人民幣7,580.3百萬元。

本集團的資產負債率，由總債務除以本集團的總資產的比例核算，該比率由2020年12月31日的77.9%下降至2021年12月31日的65.3%。

本集團的淨債務負債率，由淨債務(包括減去有息其他應付款項、有息借款和租賃負債的現金和現金等價物)除以本集團的權益總額及淨債務總和計算，該比率於2021年12月31日為19.6%(2020年12月31日：45.1%)。

基於現有資金來源以及尚未使用的銀行信貸額度，董事認為本集團的運營資金足以支撐當前的需求以及未來12個月的日常運作。



## MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

### 管理層討論與分析(續)

#### Inventory

The inventories were approximately RMB897.3 million as at 31 December 2021, which decreased by approximately RMB4,010.9 million, or 81.7%, from approximately RMB4,908.2 million as at 31 December 2020. The decrease was primarily attributed to the decrease of raw materials, products in process and finished products of wind power products caused by the disposal of United Power, which was no longer consolidated into the consolidated financial statements of the Group.

#### Trade and bills receivables

Trade and bills receivables decreased by approximately RMB2,978.2 million or 34.3% from approximately RMB8,676.8 million as at 31 December 2020 to approximately RMB5,698.6 million as at 31 December 2021. The decrease was primarily attributed to the disposal of subsidiaries which have significant trade receivables and bill balance.

#### Deposits, prepayments and other receivables

The Group's deposits, prepayments and other receivables decreased by approximately RMB632.1 million or 28.4%, from approximately RMB2,221.9 million as at 31 December 2020 to approximately RMB1,589.8 million as at 31 December 2021. The decrease was primarily attributable to the decrease of the prepayments, security deposit of construction contracts and performance and the decrease of the relevant receivables resulting from the disposal of subsidiaries.

#### Trade and bills payables

Trade and bills payables decreased by approximately RMB4,273.9 million or 39.9% from approximately RMB10,715.3 million as at 31 December 2020 to approximately RMB6,441.4 million as at 31 December 2021, which was primarily attributable to the decrease of the amount payables to raw material suppliers resulting from the disposal of United Power.

#### 存貨

存貨從2020年12月31日的約人民幣4,908.2百萬元減少約人民幣4,010.9百萬元或81.7%至2021年12月31日的約人民幣897.3百萬元。主要是由於處置風機產品附屬公司導致風電產品原材料、在產品及產成品減少所致。

#### 應收賬款及票據

應收賬款及票據從2020年12月31日的約人民幣8,676.8百萬元減少約人民幣2,978.2百萬元或34.3%至2021年12月31日的約人民幣5,698.6百萬元，主要由於本集團處置應收賬款及票據餘額較大的附屬公司導致。

#### 按金、預付款項及其他應收款項

本集團的按金、預付款及其他應收款項從2020年12月31日的約人民幣2,221.9百萬元減少約人民幣632.1百萬元或28.4%至2021年12月31日的約人民幣1,589.8萬元。此減少主要是本年墊款、建造合同保證金或履約保證金減少，及處置附屬公司導致相關款項減少。

#### 應付賬款及票據

應付賬款及票據從2020年12月31日的約人民幣10,715.3百萬元減少約人民幣4,273.9百萬元或39.9%至2021年12月31日的約人民幣6,441.4百萬元，主要是由於處理聯合動力導致應付原材料供應商款項減少。

## MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

### 管理層討論與分析(續)

#### INDEBTEDNESS

#### 債項

The following table sets forth the Group's borrowings as at 31 December 2021 and 2020:

下表載列於2021及2020年12月31日本集團的借款情況：

		<b>As at 31 December 2021</b>	As at 31 December 2020
		於2021年12月31日 (RMB million) (人民幣百萬元)	於2020年12月31日 (RMB million) (人民幣百萬元)
<b>Long-term interest-bearing borrowings</b>	<b>長期帶息借款</b>		
Bank loans:	銀行貸款：		
– Secured	– 有抵押	–	14.7
– Unsecured	– 無抵押	<b>539.3</b>	851.6
Other loans	其他貸款	<b>630.0</b>	304.9
Private placement notes	私人配售債務融資工具(無抵押)	<b>1,007.6</b>	2,012.9
Corporate bonds	公司債券	<b>2,950.6</b>	2,945.5
<b>Sub-total</b>	<b>小計</b>	<b>5,127.5</b>	6,129.6
Less: Current portion of long-term borrowings	減：長期借款的即期部份	<b>(3,157.6)</b>	(1,694.4)
<b>Total</b>	<b>合計</b>	<b>1,969.9</b>	4,435.2
<b>Short-term interest-bearing borrowings</b>	<b>短期帶息借款</b>		
Bank loans:	銀行貸款：		
– Unsecured	– 無抵押	<b>790.0</b>	5,106.0
Other loans:	其他貸款：		
China Energy (unsecured)	國家能源集團(無抵押)	–	600.0
Related parties under China Energy (unsecured)	國家能源集團附屬(無抵押)	<b>275.0</b>	–
Current portion of long-term borrowings	長期借款的即期部份	<b>3,157.6</b>	1,694.4
<b>Total</b>	<b>合計</b>	<b>4,222.6</b>	7,400.4
<b>Lease liabilities</b>	<b>租賃負債</b>	<b>135.7</b>	132.9
<b>Total indebtedness</b>	<b>債項總額</b>	<b>6,328.2</b>	11,968.5

## MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED) 管理層討論與分析(續)

As at 31 December 2021, the Group's indebtedness decreased by approximately 47.1% from approximately RMB11,968.5 million as at 31 December 2020 to approximately RMB6,328.2 million as at 31 December 2021. Among them, the proportion of short-term indebtedness to overall indebtedness increased from approximately 61.8% as at 31 December 2020 to approximately 66.7% as at 31 December 2021, which was mainly due to changes in the structure of long-term borrowings and short-term borrowings as the long-term borrowings decreased.

All of the Group's borrowings are denominated in RMB. The following table sets out the maturity status of the Group's long-term borrowings (including current portion) as at 31 December 2021 and 31 December 2020, respectively:

		<b>As at 31 December 2021</b>	As at 31 December 2020
		於2021年12月31日 (RMB million) (人民幣百萬元)	於2020年12月31日 (RMB million) (人民幣百萬元)
Within 1 year or on demand	1年內或按要求償還	<b>3,157.6</b>	1,694.4
After 1 year but within 2 years	1年以上但2年以內	<b>265.6</b>	81.3
After 2 year but within 5 years	2年以上但5年以內	<b>1,521.7</b>	4,205.5
After 5 years	5年以上	<b>182.6</b>	148.4
<b>Total</b>	<b>合計</b>	<b>5,127.5</b>	6,129.6

The effective interest rate of the Group (determined by dividing total interest expenses for the current year by the average of the sums of outstanding opening and closing borrowings) decreased from approximately 4.85% for 2020 to approximately 4.60% for 2021. It was primarily due to the increase in the proportion of short-term borrowings during the year.

### Contingent liabilities

The Group's contingent liabilities as at 31 December 2021 primarily consisted of performance guarantee provided by the Group.

於2021年12月31日，本集團債項約為人民幣6,328.2百萬元，比於2020年12月31日的債項約人民幣11,968.5百萬元減少約47.1%。其中短期債項佔總債項的比例從於2020年12月31日的約61.8%增加至2021年12月31日的約66.7%，主要是由於本年度長期借款減少，改變了長短期借款的比例結構。

本集團期內所有的借款都以人民幣計算。下表載列本集團分別於2021年12月31日及2020年12月31日的長期借款(包括即期部分)到期情況：

本集團的實際利率(以當年總利息開支除以期初及期末的未償還借款的平均值釐定)從2020年的約4.85%下降至2021年的約4.60%，主要是由於本年短期借款佔比增加。

### 或有負債

本集團於2021年12月31日的或有負債主要包括本集團提供的履約保函。

## MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

### 管理層討論與分析(續)

#### Employment, training and development

As of 31 December 2021, the Group has 4,125 employees in total. The Group has established and improved the management system of total salary based on market value and performance evaluation. The salary of staff is composed of basic salary, performance salary and reward salary. The performance salary is determined on the basis of the Company's performance and performance evaluation, and reward salary is determined according to the completion of the Company's annual key work. The Group will pay social insurance premiums, housing funds, corporate annuities, etc., for the employees strictly in accordance with applicable national and local government policies and regulations. The Group also attaches great importance to the selection, training, incentive and development of talents, concentrates all kinds of superior resources on high-potential and high-performance employees.

#### Significant investment

The Group did not have any significant investment during the year ended 31 December 2021.

#### Material acquisitions and disposals

Lucency, a wholly-owned subsidiary of the Company, entered into a transaction contract with Goldwind Environmental Protection Co., Ltd.\* ("Goldwind Environmental") on 19 April 2021. Pursuant to the contract, Lucency agreed to sell, and Goldwind Environmental agreed to acquire 70% equity capital of Galaxy Water at a consideration of RMB514,983,000. For details, please refer to the announcement of the Company dated 20 April 2021 and the circular of the Company dated 26 May 2021.

On 16 June 2021, the Company entered into an equity transfer and capital injection agreement with China Energy, Longyuan Power and United Power, to sell 40% equity of United Power through equity transfer and capital injection. The Company received a consideration of RMB407,681,944. Upon completion of the transaction, the registered capital of United Power is owned as to 40%, 30% and 30% by China Energy, the Company and Longyuan Power. United Power is no long a subsidiary of the Company since then. For details, please refer to the announcement of the Company dated 16 June 2021 and the circular of the Company dated 30 June 2021.

#### 僱用、培訓及發展

於2021年12月31日，本集團共有員工4,125人。本集團建立和完善了以市場價值為導向、以績效考核為基礎的工資總額管理體系，員工薪酬由基本工資、績效工資和獎勵工資三部份組成，績效工資依據本公司業績及績效考核情況確定，獎勵工資依據本公司年度重點工作完成情況確定，並嚴格按照國家和地方政府有關政策法規為員工繳納各項社會保險、住房公積金、企業年金等。本集團亦十分重視人才的選拔、培養、激勵和發展工作，集中各類優勢資源向高潛力、高績效員工傾斜。

#### 重大投資

本集團截至2021年12月31日止年度沒有重大投資。

#### 重大收購或出售

本公司全資附屬公司朗新明於2021年4月19日與金風環保有限公司(「金風環保」)訂立交易合同，據此，朗新明同意出售，而金風環保同意收購銀河水務70%股本權益，代價為人民幣514,983,000元。有關詳情請參閱本公司日期為2021年4月20日之公告及2021年5月26日之通函。

本公司於2021年6月16日與國家能源集團、龍源電力及聯合動力訂立股權轉讓及注資協議，通過股權轉讓及注資的方式出售聯合動力40%的股權，本公司獲得股權轉讓款人民幣407,681,944元，完成後聯合動力的註冊資本將由國家能源集團、本公司及龍源電力分別持有40%、30%及30%。聯合動力不再是本公司附屬公司。有關詳情請見本公司日期為2021年6月16日之公告及2021年6月30日之通函。

## MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED) 管理層討論與分析(續)

On 23 September 2021, the Company entered into a capital injection and equity transfer agreement with the investor, employee shareholding platform and Guoneng I&C, to transfer 16.33% equity of Guoneng I&C to the investor at a consideration of RMB97,475,936. The investor injected RMB194,951,871 in Guoneng I&C to receive 32.67% equity of the latter, and the employee shareholding platform injected RMB29,839,572 in Guoneng I&C to receive about 5% equity of the latter. Upon completion of the transaction, the equity interests in Guoneng I&C will be held as to approximately 49%, 46% and 5% by the Investors, the Company and the Employees' Shareholding Platforms, respectively, and Guoneng I&C will become a non-wholly owned subsidiary of the Company. For details, please refer to the announcement of the Company dated 23 September 2021 and the circular of the Company dated 24 November 2021.

From 16 August 2021 to 31 December 2021, the Group sold 33,682,834 shares of Zhonghuan Semiconductor on Shenzhen Stock Exchange, receiving a total consideration of approximately RMB1,626,646,227.76 (excluding the transaction costs). The average selling price per share was about RMB48.293 (excluding the transaction costs). For details, please refer to the announcement of the Company dated 11 August 2021 and the circular of the Company dated 14 September 2021.

Save as disclosed above, the Group did not have other material acquisition and disposal during the year ended 31 December 2021.

### Market risk

The Group is exposed to various risks associated with its business operations, including credit risk, interest rate risk, liquidity risk and exchange rate risk.

### Credit risk

The Group's credit risk is primarily attributable to cash at bank and in hand, trade and bills receivables, deposits, prepayments and other receivables and other non-current assets. Management has a credit policy in place and the exposure to these credit risks are monitored on an ongoing basis.

Substantially all of the Group's cash at bank and in hand are deposited in the stated owned/controlled PRC banks which the Directors of the Company assessed the credit risk to be insignificant.

The Group performed credit evaluations on all of its customers, and monitors outstanding receivables due from such customers on an ongoing basis. The Group's credit evaluation focuses on a customer's payment history and its ability to pay and takes into account industry and customer-specific considerations, as well as the general macroeconomic climate. The Group generally requires its customers to settle progress billings and other debts in accordance with agreed contract terms.

本公司於2021年9月23日與投資者、員工持股平台及國能信控訂立注資及股權轉讓協議，本公司以總代價人民幣97,475,936元向投資者轉讓權益(佔國能信控約16.33%股權)，投資者向國能信控股本注資人民幣194,951,871元換取國能信控約32.67%的股權，員工持股平台向國能信控注資人民幣29,839,572元換取國能信控約5%的股權以實施股權激勵計劃。完成後，投資者、本公司及員工持股平台將分別持有國能信控約49%、46%及5%的股權，而國能信控成為了本公司的非全資附屬公司。有關詳情請見本公司日期為2021年9月23日之公告及2021年11月24日之通函。

於2021年8月16日至2021年12月31日期間，本集團於深圳證券交易所公開市場交易中出售合共33,682,834股中環股份之股份，總對價約為人民幣1,626,646,227.76元(不包括交易成本)。每股出售股份之平均售價約為人民幣48.293元(不包括交易成本)。有關詳情請見本公司日期為2021年8月11日之公告及2021年9月14日之通函。

除以上已披露者，於截至2021年12月31日止年度內，本集團無其他重大收購或出售。

### 市場風險

本集團面臨著與其業務經營有關的多種風險，包括信貸風險、利率風險、流動資金風險和匯率風險。

### 信貸風險

本集團信貸風險主要歸因於銀行存款及庫存現金、應收賬款及票據、按金、預付款項和其他應收款項，以及其他非流動資產。本集團定有內部信貸政策，並以持續的方式對其交易對方信貸風險進行監控。

本集團絕大部分現金都存於中國國有或國有控股的銀行業金融機構中。因此，本公司董事認為該等風險並不重大。

本集團對其所有客戶進行信用評估，並持續監控客戶的重大應收款項。本集團的信用評估注重客戶的付款記錄及付款能力，並考慮行業和客戶的具體因素，以及宏觀經濟環境。本集團一般要求其客戶按照合約協議條款支付進度付款和其他債務。

## MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED)

### 管理層討論與分析(續)

#### Interest rate risk

The Group's interest rate risk arises primarily from long-term borrowings. Borrowings issued at variable rates expose the Group to cash flow interest rate risk.

The Group regularly reviews and monitors the mix of fixed and variable rate borrowings in order to manage its interest rate risks. During the year, the management of the Group did not consider it is necessary to use interest rate swaps to hedge its exposure to interest rate risk.

#### Liquidity risk

The nature of the Group's business gives rise to significant irregularity in its cash flow. Through regular collection of receivables and while ensuring sound operations, the Company is able to significantly increase its operating cash. Meanwhile, the Group proposed to improve its financing structure by issuing mid-term and long-term bonds and introducing financial leasing. The Group is committed to ensuring sufficient working capital to meet its operating needs or having access to adequate bank credit to maintain uninterrupted operations. The Group's cash flow position is essential for its continuous development and expansion.

#### Exchange rate risk

The continued development and expansion of the Group's international operations is expected to result in increased exposure to exchange rate risk, arising primarily through export sales which would typically be denominated in foreign currencies. The Group expects that its future export sales will principally be denominated in either United States dollars or Hong Kong dollars. The foreign currencies assets of the Company mainly include the Hong Kong dollars deposits and other receivables priced in Hong Kong dollars due from Guodian Technology & Environment Group Hong Kong Corporation Limited, a subsidiary. As there had been a depreciation in the Hong Kong dollars against RMB in 2021, the Group recorded an exchange loss of RMB2.6 million during the year. The Directors consider that the Group's exchange rate risk is insignificant. The Group does not currently hedge against its exchange rate risk.

RMB currently is not a freely convertible currency and the PRC government may at its discretion restrict access to foreign currency exchange for current account transactions in the future. Changes in such foreign exchange controls may adversely affect the Group's international operations and sales, and may limit the Group's ability to satisfy its foreign exchange denominated obligations. In addition, the Group may be restricted from paying dividends on its listed H shares to shareholders by any such policy changes.

#### 利率風險

本集團的利率風險主要來自於長期借款。浮動利率借款使本集團暴露於現金流利率風險之下。

本集團定期審查並監控固定利率及浮動利率借款的組合。然而，本集團管理層認為在本年度無需通過利率掉期，對沖本集團的利率風險。

#### 流動資金風險

鑒於其所經營的業務性質，本集團的現金流量具有顯著的不規則性。本集團在保證經營狀況良好的前提下，通過常態化應收賬款清收，大幅改善了公司經營現金。同時，本集團通過發行中長期債券、開展融資租賃等業務，改善融資結構，確保其有足夠營運資金以達到其經營需求，或者能夠獲得充足的銀行信貸以不中斷地持續運營。本集團的現金流量狀況對於其持續發展和擴張不可或缺。

#### 匯率風險

本集團國際業務的持續發展和擴張預計將導致其面臨的匯率風險增加。這種增加主要來自於通常以外幣計價的出口銷售。本集團預計其未來的出口銷售將主要以美元或港元計價。本公司持有的外幣資產主要為港幣存款及以港幣計價的應收附屬公司國家能源集團科技環保(香港)有限公司的款項，2021年港幣對人民幣的匯率下跌，造成本集團本年發生匯兌損失約為人民幣2.6百萬元。董事認為匯率風險不重大。本集團目前未對沖其匯率風險。

目前人民幣並不是自由兌換的貨幣，未來中國政府可能會酌情決定限制經常賬戶交易的外匯準入。對外幣兌換管控的變化可能會對本集團的國際業務和銷售帶來負面影響，也可能會限制本集團滿足其外匯計價義務。此外，由於政策變化，本集團向其股東支付上市的H股的股息可能會被限制。

## MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED) 管理層討論與分析(續)

### Subsequent events

On 24 January 2022, Beijing Chunhui Qingyun Technological and Environmental Corporation Limited (the “**Offeror**”), which is a wholly-owned subsidiary of China Energy incorporated in the PRC with limited liability, entered into a merger agreement (the “**Merger Agreement**”) with the Company. Pursuant to the Merger Agreement, the Offeror and the Company will implement the merger subject to the terms and conditions of the Merger Agreement, including the pre-conditions and the conditions. After the merger, the Company will be merged into and absorbed by the Offeror in accordance with the PRC Company Law and other applicable PRC Laws.

Pursuant to the Merger Agreement, conditional upon the fulfilment (or waiver, as applicable) of the pre-conditions and the conditions, the Offeror will pay the cancellation price in the amount of HK\$1.08 per H share to the H shareholders for the cancellation of the H shares. China Energy will be issued with RMB0.8793576 registered capital of the Offeror for each domestic share. Guodian Power Development Co., Ltd. will receive the consideration for the cancellation of its domestic shares in the same way as China Energy as described above.

After the completion of the merger, the Offeror will assume all assets, liabilities, interests, businesses, employees, contracts and all other rights and obligations of the Company and the Company will be eventually deregistered. Upon satisfaction of the pre-conditions and all the conditions to effectiveness, the Company will apply to the Stock Exchange for voluntary withdrawal of the listing of the H shares from the Stock Exchange pursuant to Rule 6.15 of the Listing Rules. For details, please refer to the announcement of the Company dated 24 January 2022.

Saved as disclosed above, as of the date of this report, the Company did not have any material subsequent events.

### 期後事項

於2022年1月24日，北京春暉青雲科技環保有限公司(「**要約人**」)，其是一家在中國註冊成立的有限責任公司，由國家能源集團全資擁有，其與本公司訂立合併協議(「**合併協議**」)。根據合併協議，要約人及本公司將根據合併協議的條款及條件(包括前提條件及該等條件)實施合併。合併後，本公司將根據中國公司法及其他適用中國法律被要約人吸收合併。

根據合併協議，待前提條件及該等條件達成(或獲豁免，倘適用)後，要約人將就註銷H股而向H股股東支付每股H股1.08港元的註銷價。國家能源集團將就每股內資股獲發行人民幣0.8793576元的要約人註冊資本，國電電力發展股份有限公司可就註銷其內資股按上述與國家能源集團的相同方式收取對價。

於合併完成後，要約人將承接本公司的所有資產、負債、權益、業務、僱員、合約以及所有其他權利及義務，而本公司最終將註銷登記。於前提條件及所有生效條件達成後，本公司將根據上市規則第6.15條向聯交所申請自願撤銷H股於聯交所的上市地位。有關詳情請見本公司日期為2022年1月24日之公告。

除上文披露外，截至本報告日，本公司並無任何重大期後事項。

## MANAGEMENT'S DISCUSSION AND ANALYSIS (CONTINUED) 管理層討論與分析(續)

### BUSINESS PROSPECTS FOR 2022

#### Lay a solid foundation for high-quality development

Firstly, the Group will make great efforts to conduct the refined management, continue to improve the overall budget management and control, strengthen the whole process cost management and control, and continue to improve the level of capital management and control. Secondly, the Group will improve the level of safety and environmental protection, practically accelerate the establishment of the safety system, and build the enterprise with inherent safety. Thirdly, the Group will improve the legal risk prevention system to promote the full coverage of audit supervision and risk management and control.

#### Stimulate the high-quality development force

Firstly, the Group will promote scientific and technological innovation, increase the investment in research and development, and conduct the refined management of scientific and technological projects in the whole process. Secondly, the Group will promote the technology cultivation, actively cultivate the core technologies for pollution abatement, such as air, water, and solid wastes, and promote the continuous improvement of the core technologies in application. Thirdly, the Group will promote the transformation of science and technology, build the service system for the transformation of scientific and technological achievements around the whole process, complete flow scheme, and complete cycle of the transformation of scientific and technological achievements.

#### Optimize the structure of high-quality development

Firstly, the Group will strengthen the marketing, conduct the transformation of the business system of the regional market service centers, and explore the implementation of the digital marketing transformation. Secondly, the Group will increase the development efforts of key projects and strengthen the development of new markets and new businesses. Thirdly, the Group will strengthen the overseas business, firmly establish the awareness of "go global", plan the new target markets, and deepen the green international exchange and cooperation.

### 2022年業務展望

#### 夯實高質量發展基礎

一是抓好精細化管理，持續完善全面預算管控，強化全過程成本管控，持續提升資金管控水準；二是提升安全環保水準，切實抓緊安全體系建設，打造本質安全企業；三是完善法律風險防範體系，推進審計監督和風險管控全覆蓋。

#### 激發高質量發展動能

一是推動科技創新，加大研發投入，開展全過程科技項目精細化管理；二是推動技術培育，積極培育大氣、水、固體廢棄物等污染治理核心技術，推動核心技術在應用中不斷完善；三是推動科技轉化，圍繞科技成果轉化全過程、全流程、全週期，構建科技成果轉化服務體系。

#### 優化高質量發展結構

一是強化市場營銷，實施區域市場服務中心業務體系轉型，探索實施數字營銷轉型；二是加大重點項目開發力度，加強新市場、新業務開拓；三是強化海外業務，牢固樹立「走出去」意識，謀劃新的目標市場，深化綠色國際交流與合作。



# DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT

## 董事、監事及高級管理人員

### BOARD OF DIRECTORS

As of 31 December 2021, the Board of Directors consists of eleven Directors, including two executive Directors, five non-executive Directors and four independent non-executive Directors. The functions and responsibilities of the Board of Directors include convening general meetings, reporting its work in general meetings, implementing resolutions approved in general meetings, ascertaining the Company's business plans and investment plans, preparing the Company's annual budget and final accounts, preparing the Company's profit distribution plans and proposals for the increase in or reduction of registered capital and exercising other powers, functions and responsibilities as set out in the articles of association of the Company (the "AOA"). The Company has entered into a service contract or appointment letter with each Director.

The following table sets out certain information relating to the Directors of the Company during the year ended 31 December 2021. The members of the fourth session of the Board of Directors were re-elected and appointed at the 2020 first extraordinary general meeting of the Company held on 7 August 2020. The current term for all the Directors will expire on 6 August 2023.

### 董事會

於2021年12月31日，董事會由11名董事組成：2名執行董事、5名非執行董事及4名獨立非執行董事。董事會的職能及職責包括：召集股東大會；於股東大會上報告董事會的工作；執行股東大會通過的決議；確定本公司業務計劃及投資計劃；制訂本公司年度預算及決算；制訂本公司利潤分配方案及關於註冊資本增減的議案；以及行使本公司《公司章程》[《公司章》]所賦予的其他權力、職能及職責。本公司與各董事訂立了服務合約或任命書。

下表載述截至2021年12月31日止年度董事的若干資料。本公司於2020年8月7日舉行的2020年第一次臨時股東大會上進行第四屆董事會成員的重選及委任。本屆所有董事的任期將於2023年8月6日屆滿。

Name 姓名	Age 年齡	Position 職位	Date of Joining the Group 加入日期	Date of Appointment / Re-appointment 委任/重選日期
Mr. CHEN Dongqing 陳冬青先生	56	Executive Director and Chairman of the Board of Directors 執行董事兼董事長	4 February 2016 2016年2月4日	Re-appointed on 7 August 2020 2020年8月7日獲重選
Mr. LI Caiyun <sup>(1)</sup> 李彩雲先生 <sup>(1)</sup>	53	Executive Director 執行董事	15 July 2014 2014年7月15日	Appointed on 19 October 2021 2021年10月19日獲委任
Mr. ZHANG Jun <sup>(2)</sup> 張軍先生 <sup>(2)</sup>	58	Executive Director 執行董事	1 September 2004 2004年9月1日	Re-appointed on 7 August 2020 2020年8月7日獲重選
Mr. TANG Chaoxiong <sup>(3)</sup> 唐超雄先生 <sup>(3)</sup>	54	Executive Director 執行董事	12 October 2015 2015年10月12日	Re-appointed on 7 August 2020 2020年8月7日獲重選
Mr. SONG Chang <sup>(4)</sup> 宋暢先生 <sup>(4)</sup>	57	Non-executive Director 非執行董事	30 June 2021 2021年6月30日	Appointed on 30 June 2021 2021年6月30日獲委任
Mr. JIANG Jianwu <sup>(5)</sup> 江建武先生 <sup>(5)</sup>	56	Non-executive Director 非執行董事	28 December 2021 2021年12月28日	Appointed on 28 December 2021 2021年12月28日獲委任
Mr. ZHANG Wenjian 張文建先生	58	Non-executive Director 非執行董事	16 May 2014 2014年5月16日	Re-appointed on 7 August 2020 2020年8月7日獲重選
Mr. GU Yuchun 顧玉春先生	58	Non-executive Director 非執行董事	8 August 2017 2017年8月8日	Re-appointed on 7 August 2020 2020年8月7日獲重選

## DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT (CONTINUED)

### 董事、監事及高級管理人員(續)

Name 姓名	Age 年齡	Position 職位	Date of Joining the Group 加入日期	Date of Appointment / Re-appointment 委任/重選日期
Mr. WANG Zhongqu <sup>(6)</sup> 王忠渠先生 <sup>(6)</sup>	60	Non-executive Director 非執行董事	16 May 2014 2014年5月16日	Re-appointed on 7 August 2020 2020年8月7日獲重選
Ms. GE Xiaojing 葛曉菁女士	63	Non-executive Director 非執行董事	7 August 2020 2020年8月7日	Appointed on 7 August 2020 2020年8月7日獲委任
Mr. SHEN Xiaoliu 申曉留先生	71	Independent non-executive Director 獨立非執行董事	29 March 2016 2016年3月29日	Re-appointed on 7 August 2020 2020年8月7日獲重選
Mr. QU Jihui 曲久輝先生	64	Independent non-executive Director 獨立非執行董事	16 May 2014 2014年5月16日	Re-appointed on 7 August 2020 2020年8月7日獲重選
Mr. XIE Qiuye 謝秋野先生	62	Independent non-executive Director 獨立非執行董事	16 May 2014 2014年5月16日	Re-appointed on 7 August 2020 2020年8月7日獲重選
Mr. YEUNG Chi Tat 楊志達先生	52	Independent non-executive Director 獨立非執行董事	8 August 2017 2017年8月8日	Re-appointed on 7 August 2020 2020年8月7日獲重選

Note :

附註 :

- (1) Mr. LI Caiyun was elected as the general manager of the Company on 30 June 2021 and an executive director and a general manager of the Company at the second extraordinary general meeting of the Company held on 19 October 2021 and will hold office until the expiration of the term of the fourth session of the Board of Directors. Subsequently, Mr. LI was elected as a member of the strategic committee of the Board of Directors at the Seventeenth Meeting of the fourth session of the Board of Directors held on 6 December 2021. For details, please refer to the announcements of the Company dated 30 June 2021, 19 October 2021 and 6 December 2021.
- (1) 李彩雲先生於2021年6月30日委任為本公司總經理，並於本公司2021年10月19日召開的2021年第二次臨時股東大會上獲選舉為本公司執行董事，任期至第四屆董事會任期屆滿。其後，李先生於2021年12月6日召開的第四屆董事會2021年第十七次會議上被選舉為董事會戰略委員會委員。有關詳情請參閱本公司日期為2021年6月30日、2021年10月19日及2021年12月6日的公告。
- (2) With effect from 2 June 2021, Mr. ZHANG Jun ceased to be an executive director, a member of the strategic committee and the general manager of the Company due to his transfer. For details, please refer to the announcement of the Company dated 2 June 2021.
- (2) 因工作調動，自2021年6月2日起，張軍先生不再擔任本公司執行董事、戰略委員會成員及總經理職務。有關詳情，請參閱本公司日期為2021年6月2日的公告。
- (3) With effect from 23 April 2021, Mr. TANG Chaoxiong ceased to be an executive director, a member of the nomination committee, a deputy general manager and a chief accountant of the Company due to his transfer. For details, please refer to the announcement of the Company dated 23 April 2021.
- (3) 因工作調動，自2021年4月23日起，唐超雄先生不再擔任本公司執行董事、提名委員會成員、副總經理及總會計師職務。有關詳情，請參閱本公司日期為2021年4月23日的公告。

## DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT (CONTINUED)

### 董事、監事及高級管理人員(續)

- (4) Mr. SONG Chang was elected as a non-executive director of the Company at the Company's 2020 annual general meeting held on 30 June 2021 and will hold office until the expiration of the term of the fourth session of the Board of Directors. Subsequently, Mr. SONG was elected as a member of the remuneration and appraisal committee of the Board of Directors at the Seventeenth Meeting of the fourth session of the Board of Directors held on 6 December 2021. For details, please refer to the announcements of the Company dated 30 June 2021 and 6 December 2021.
- (4) 宋暢先生於本公司2021年6月30日召開的2020年股東週年大會上獲選舉為本公司非執行董事，任期至第四屆董事會任期屆滿。其後，宋先生於2021年12月6日召開的第四屆董事會2021年第十七次會議上被選舉為董事會薪酬與考核委員會委員。有關詳情請參閱本公司日期為2021年6月30日及2021年12月6日的公告。
- (5) Mr. JIANG Jianwu was elected as a non-executive director and a member of the nomination committee of the Company at the third extraordinary general meeting of the Company held on 28 December 2021 and will hold office until the expiration of the term of the fourth session of the Board of Directors. For details, please refer to the announcement of the Company dated 28 December 2021.
- (5) 江建武先生於本公司2021年12月28日召開的2021年第三次臨時股東大會上獲選舉為本公司非執行董事及提名委員會委員，任期至第四屆董事會任期屆滿。有關詳情請參閱本公司日期為2021年12月28日的公告。
- (6) With effect from 20 October 2021, Mr. WANG Zhongqu ceased to be a non-executive director and a member of the remuneration and appraisal committee of the Company due to his retirement. For details, please refer to the announcement of the Company dated 20 October 2021.
- (6) 因達到退休年齡，自2021年10月20日起，王忠渠先生不再擔任本公司非執行董事及薪酬與考核委員會成員職務。有關詳情，請參閱本公司日期為2021年10月20日的公告。

**Mr. CHEN Dongqing** is the secretary of the Party Committee, an executive Director and the Chairman of the Board of Directors of the Company. Mr. CHEN serves concurrently as the chairman of the board of China Energy Conservation and Emission Reduction Co., Ltd.. Mr. CHEN joined the Group on 4 February 2016. Mr. CHEN served successively as the deputy director of the Quality and Technology Office of the Thermal Power Construction Department and the New Energy Development Office of the Power Construction Department of State Power Corporation; the director of the General Office of the Engineering & Construction Department and the deputy head of the Engineering & Construction Department of Guodian Group; the vice general manager of the Southern Branch of Guodian Group; the vice general manager of Guodian Guangdong Power Co., Ltd.; and the secretary of the leading Party members' group and the vice general manager of Guodian Fujian Power Co. Ltd., the deputy secretary of the Party Committee, executive director and general manager of the Company. Mr. CHEN obtained a master's degree in Power Plant Engineering from Northeast China Institute of Electric Power. Mr. CHEN is a senior engineer.

**陳冬青先生**，為本公司黨委書記、執行董事兼董事長。陳先生同時還兼任中國節能減排有限公司董事長。陳先生於2016年2月4日加入本集團。陳先生歷任國家電力公司火電建設部質量技術處副處長、電源建設部新能源發展處副處長，國電集團工程建設部綜合處處長、工程建設部副主任，國電南方分公司副總經理，國電廣東電力有限公司副總經理，國電福建電力有限公司黨組書記、副總經理，本公司黨委副書記、執行董事及總經理等職務。陳先生畢業於東北電力學院發電廠工程專業並獲得碩士學位。陳先生是高級工程師。

## DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT (CONTINUED)

### 董事、監事及高級管理人員(續)

**Mr. LI Caiyun** is the deputy secretary of the Party Committee, an executive Director and the general manager of the Company. Mr. LI serves concurrently as the general manager of China Energy Conservation and Emission Reduction Co, Ltd.. Mr. LI joined the Group on 15 July 2014. Mr. LI successively served as the deputy director of construction site of Jiangsu Electric Power Construction No. 3 Engineering Company; the manager of Jiangsu Electric Power Construction No. 3 Engineering Company; the director and the deputy chief engineer of the engineering department of Guodian Changzhou Power Generating Co., Ltd.; the deputy chief engineer and the deputy general manager of Guodian Taizhou Generation Co., Ltd.; the deputy chief and chief of the engineering department of bidding center of Guodian Group; the general manager assistant, a member of the Party Group of the Company; the general manager and the deputy secretary of Party Committee, the chairman of the board of directors, the secretary of Party Committee of Longyuan Engineering and the chairman of the board of directors of Longyuan Energy Conservation. Mr. LI obtained a bachelor's degree in industrial and civil construction from Wuhan Institute of Hydraulic and Electric Engineering (currently known as the School of Water Resources and Hydropower Engineering of Wuhan University). Mr. LI is a professor-level senior engineer.

**李彩雲先生**，為本公司黨委副書記、執行董事及總經理。李先生同時還兼任中國節能減排有限公司總經理。李先生於2014年7月15日加入本集團。李先生歷任江蘇省電力建設第三工程公司建築工地副主任、江蘇省電力建設第三工程公司建築專業公司經理，國電常州發電有限公司工程部主任、副總工程師，國電泰州發電有限公司副總工程師、副總經理，國電集團招標中心副處長、招標中心工程處處長，本公司總經理助理、黨組成員、副總經理，龍源工程總經理、黨委副書記、董事長、黨委書記。李先生畢業於武漢水利電力學院(現武漢大學水利水電學院)工民建專業，獲得學士學位。李先生是教授級高級工程師。

## DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT (CONTINUED) 董事、監事及高級管理人員(續)

**Mr. SONG Chang** is a non-executive Director of the Company., currently serves as a non-executive Director. Mr. SONG also serves as the director of the corporate management and legal affairs department (reform office) of China Energy and a director of China energy conservation and emission reduction Co., Ltd.. Mr. SONG joined the Group on 30 June 2021. Mr. SONG successively served as deputy chief of the power generation department, head of the technical engineering department, deputy chief engineer, head of the production technology department, and deputy plant manager of Shijingshan General Power Plant; assistant to the head of Douhe Power Plant; manager of the power generation department of Guohua (Beijing) Electric Power; general manager, head of Phase II Project Preparation Office of Sanhe Power Generation Company; secretary of the Party Committee, general manager, and head of Phase II Project Preparation Office of Sanhe Power Generation Company; general manager of Suizhong Power Generation Company, deputy chief engineer of Guohua (Beijing) Electric Power; chief engineer of Shenhua Guohua Electric Power Company; general manager of technology research center of Guohua (Beijing) Electric Power, chief engineer of Shenhua Guohua Electric Power Branch; chief engineer of Shenhua Guohua Electric Power; deputy general manager of Shenhua Guohua Power Electric Branch, general manager, member of the Party Committee and deputy general manager of Shenhua (Beijing) Electric Power Research Institute; deputy general manager of Shenhua Guohua Electric Power, general manager of Guohua (Beijing) Electric Power; chairman of Shenhua Shendong Electric Power, deputy secretary of the Party Committee of Shenhua Guoneng (Shendong Electric Power) Company, chairman of Shenhua Guoneng Group; chairman of Shenhua Guoneng Group, secretary of the Party Committee of Shenhua Guoneng (Shendong Electric Power) Company, chairman of Shenhua Shendong Electric Power; secretary of the Party Committee and general manager of Shenhua Guohua Electric Power Branch, secretary of the Party Committee and chairman of Guohua (Beijing) Electric Power. Mr. SONG graduated from North China Electric Power University with a bachelor's degree in Thermal Power of Plant and a doctoral degree from North China Electric Power Institute (currently known as North China Electric Power University) with a major in Thermal Energy Engineering. Mr. SONG obtained a bachelor's degree in power plant and electric power system from North China Electric Power University, a master's degree in business administration from China Europe International Business School and a doctorate degree in thermal engineering from North China Electric Power University.

宋暢先生，為本公司非執行董事。宋先生同時擔任國家能源集團企業管理與法律事務部(改革辦公室)主任及中國節能減排有限公司董事。宋先生於2021年6月30日加入本集團。宋先生歷任石景山發電總廠發電處副處長，技術工程處處長，副總工程師、生產技術處處長，副廠長；陡河發電廠廠長助理；北京國華電力公司發電部經理；三河發電公司總經理、二期工程籌建處主任；三河發電公司黨委書記、總經理、二期工程籌建處主任；綏中發電公司總經理兼黨委書記、北京國華電力公司副總經理；神華國華電力分公司總工程師；北京國華電力技術研究中心總經理、神華國華電力分公司總工程師；神華國華電力分公司總工程師；神華國華電力分公司副總經理、神華(北京)電力研究院總經理；神華國華電力分公司副總經理、北京國華電力公司總經理；神華國華電力集團公司董事長、神華國華電力分公司總經理，北京國華電力公司董事長。宋先生畢業於華北電力學院(現華北電力大學)電廠熱能動力工程專業並取得學士學位，中歐國際工商學院工商管理碩士，亦於華北電力大學取得熱能工程專業博士學位。

## DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT (CONTINUED)

### 董事、監事及高級管理人員(續)

**Mr. JIANG Jianwu** is a non-executive Director of the Company. Mr. JIANG currently serves as the director of the safety and environmental supervision department of China Energy and a director of China energy conservation and emission reduction Co., Ltd.. Mr. JIANG joined the Group on 28 December 2021. Mr. JIANG successively served as an assistant engineer and engineer of the mining construction department of Shenhua Group Corporation Limited (“**Shenhua Group**”), cadre of safety, quality and environmental protection center, deputy director and director of the environmental protection department of Shenhua Group (during the period, Mr. JIANG was sent to prefectural party committee in Nagqu, Tibet and Nierong county as assistant secretary general and deputy secretary for two years), deputy manager of the infrastructure coordination department of Shenhua Group, deputy general manager of China Shenhua Coal Liquefaction Company Limited, deputy secretary of the party committee, deputy general manager, secretary to the disciplinary committee, and chairman of the labor union of Shenhua Baotou Coal Chemical Company, deputy general manager and general manager of the environmental protection department of Shenhua Group, supervisor and deputy secretary of the audit center of China Energy. Mr. JIANG graduated from China University of Mining and Technology and obtained a master’s degree in beneficiation engineering. Mr. JIANG is a senior engineer.

**Mr. ZHANG Wenjian** is a non-executive Director of the Company. Mr. ZHANG also serves as the director of the Science and Technology Department (the Office of the Science and Technology Committee and Major Special Office) of China Energy and a director of China energy conservation and emission reduction Co., Ltd.. Mr. ZHANG joined the Group on 16 May 2014. Mr. ZHANG served successively as the deputy head of the Electric Usage Office; the head of the Electric Dispatch Office; the manager of the Production Planning; the assistant of the director and the deputy director of Hengshui Electric Power Bureau; the secretary of the Party Committee of Hanfeng Power plant; the director of Xingtai Power plant; the deputy head and head of the marketing department of Guodian Group; and the head of the Technology and General Industry Office of Guodian Group. Mr. ZHANG obtained a bachelor’s degree in power plant and electric power system from North China Electric Power Institute (currently known as North China Electric Power University), and a master’s degree from North China Electric Power University in technology economy and management. Mr. ZHANG is a professor-level senior engineer and an expert entitled to Government Special Allowance of the State Council.

**江建武先生**，為本公司非執行董事。江先生同時擔任國家能源集團安全環保監察部主任及中國節能減排有限公司董事。江先生於2021年12月28日加入本集團。江先生歷任神華集團有限責任公司(「**神華集團**」)礦建部助理工程師、工程師，神華集團安全品質環保中心幹部、環保處副處長、處長，其間援派到西藏那曲地委、聶榮縣縣委任副秘書長、副書記兩年，神華集團基建協調部副經理，中國神華煤製油化工有限公司副總經理，神華包頭煤化工有限公司黨委副書記、副總經理、紀委書記、工會主席，神華集團環境保護部副總經理、總經理，國家能源集團審計中心主任、副書記。江先生畢業於中國礦業大學選礦工程專業並獲得碩士學位。江先生是高級工程師。

**張文建先生**，為本公司非執行董事。張先生同時擔任國家能源集團科技部(科技委辦公室、重大專項辦公室)一級業務總監及中國節能減排有限公司董事。張先生於2014年5月16日加入本集團。張先生歷任衡水電業局用電所副所長、調度所所長、生技科科長、局長助理、副局長，邯峰電業局黨委書記，邢台電業局局長，國電集團市場營銷部副主任、市場營銷部主任，國電集團科技與綜合產業部主任，國家能源集團科技部(科技委辦公室、重大專項辦公室)主任。張先生畢業於華北電力學院(現華北電力大學)發電廠及電力系統專業，獲得學士學位；亦畢業於華北電力大學技術經濟與管理專業，獲得碩士學位。張先生是教授級高級工程師及獲國務院政府特殊津貼專家。

## DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT (CONTINUED)

### 董事、監事及高級管理人員(續)

**Mr. GU Yuchun** is the non-executive director of the Company. Mr. GU is concurrently the vice general manager of Guodian Power Development Co., Ltd. Mr. GU joined the Group on 8 August 2017. Mr. GU served successively as vice chief engineer of the Electric Power Planning & Engineering Institute; project manager of ABB ALSTOM Beijing Engineering Consulting Company; department director of the US-funded Puqi Saide Power Generation Co., Ltd; project manager and vice chief engineer of Beijing Boqi Technology Co., Ltd; vice director and director of the Electric Power Development Department of Guodian Group North China Branch; general manager of Guodian Inner Mongolia Dongsheng Co-Generation Power Co., Ltd.; vice chief engineer of Guodian Power Development Co., Ltd. and concurrently general manager and the vice secretary of the Party Committee of Guodian Construction Investment Inner Mongolia Energy Co., Ltd; assistant to general manager of Guodian Power Development Co., Ltd. and general manager and vice secretary of the Party Committee of Guodian Construction Investment Inner Mongolia Energy Co., Ltd.; member of Party Committee and vice-general manager of Guodian Power Development Co., Ltd. Mr. GU graduated from Zhejiang University and obtained a bachelor's degree in thermal power; then graduated from Huazhong University of Science and Technology and obtained a master's degree in power engineering; and finally graduated from Nankai University and obtained EMBA. Mr. GU is a professor-level senior engineer.

**Ms. GE Xiaojing**, is a non-executive Director of the Company. Ms. GE concurrently serves as a partner of the SAIF Partners, director of Dongguan Quotient Kinematics Machine Technology Co. Ltd., Shenzhen Unifortune Supply Chain Management Co. Ltd., Super C (Dongguan) New Material Technology Co. Ltd. and Guangzhou Waming Intelligent Technology Co., Ltd. and independent non-executive director of MOBI Development Co., Ltd. (HK.0947). Ms. GE joined the Group on 7 August 2020. Ms. GE successively acted as deputy general manager and financial director of MOBI Development Co., Ltd. In June 2009, Ms. GE joined SAIF Partners, mainly responsible for investment in advanced intelligent manufacturing, big data, energy, education, new media and other fields. She has led successful investment in Shenzhen Orbbec Technology Co. Ltd., Hangzhou SF Intra-City Industrial Co., Ltd., Dongguan Quotient Kinematics Machine Technology Co. Ltd., Shenzhen Unifortune Supply Chain Management Co. Ltd., Super C (Dongguan) New Material Technology Co. Ltd., Anhui Xinzhi Digital Media Information Technology Co. Ltd., Annuo Youda Gene Technology (Beijing) Co. Ltd. and Guangzhou Waming Intelligent Technology Co., Ltd. She served as the RMB fund chief financial officer of SAIF Partners in 2014, responsible for its finance and taxation, management of limited partners and management of post-investment projects. Ms. GE graduated from the Department of Precision Instrument, Tsinghua University with a bachelor's degree and a master's degree in optical instruments. Ms. GE also graduated from George Washington University with a master's degree in information management systems.

**顧玉春先生**，為本公司非執行董事。顧先生同時擔任國電電力發展股份有限公司一級業務總監。顧先生於2017年8月8日加入本集團。顧先生歷任電力規劃設計總院副總工程師，ABB ALSTOM北京工程諮詢公司項目經理，美資蒲圻賽德發電有限公司部門主任，北京博奇科技有限公司項目經理、副總工程師，國電集團華北分公司電源發展部副主任、主任，國電內蒙古東勝熱電有限公司總經理，國電電力發展股份有限公司副總工程師兼國電建設內蒙古能源有限公司總經理、黨委副書記，國電電力發展股份有限公司總經理助理兼國電建設內蒙古能源有限公司總經理、黨委副書記，國電電力發展股份有限公司黨委委員、副總經理。顧先生畢業於浙江大學熱能動力專業取得學士學位，並於華中科技大學動力工程專業取得工程碩士學位，亦於南開大學高級工商管理專業取得高級工商管理碩士學位。顧先生是教授級高級工程師。

**葛曉菁女士**，為本公司非執行董事。葛女士同時擔任賽富亞洲投資基金合夥人，東莞市李群自動化技術有限公司、深圳市聯合利豐供應鏈管理有限公司、鴻納(東莞)新材料科技有限公司、廣州蛙鳴智能科技有限公司董事和摩比發展有限公司(HK.0947)獨立非執行董事。葛女士於2020年8月7日加入本集團。葛女士歷任摩比發展有限公司副總經理及財務負責人。2009年6月葛女士加入賽富亞洲投資基金，主要負責高端智能製造、大數據、能源、教育、新媒體等領域的投資。其主導投資了深圳奧比中光科技有限公司，杭州順豐同城實業股份有限公司，東莞市李群自動化技術有限公司，深圳市聯合利豐供應鏈管理有限公司，鴻納(東莞)新材料科技有限公司，安徽新知數媒信息科技有限公司，安諾優達基因科技(北京)有限公司，廣州蛙鳴智能科技有限公司等成功企業。2014年擔任賽富亞洲投資基金人民幣基金首席財務官，負責基金的財務及稅務、有限合夥人管理及投後項目管理。葛女士畢業於清華大學，獲得精儀系光學儀器專業學士學位及碩士學位，亦畢業於美國喬治華盛頓大學，獲得信息管理系統專業的碩士學位。

## DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT (CONTINUED)

### 董事、監事及高級管理人員(續)

**Mr. SHEN Xiaoliu** is an independent non-executive Director of the Company. Mr. SHEN joined the Group on 29 March 2016. Mr. SHEN is a professor of the School of Control and Computer Engineering of North China Electric Power University, and an expert of the State Key Laboratory of Alternate Electric Power System with Renewable Energy Resources and the Key Laboratory of the Institution of the energy internet and power big data of North China Electric Power University. Mr. SHEN served successively as a technician in Shanxi Linfen Electric Power Bureau; an engineer at the dispatching center of the Electric Power Bureau of Shanxi Province; a teacher in the thermal power engineering teaching and research section of the Beijing Graduate School of North China Electric Power University; the director of the information center of the Electric Power Bureau of Shanxi Province; and the deputy division director of the education division of Shanxi Electric Power Company. Mr. SHEN obtained a bachelor's degree in industrial automation from the Department of Electrical Engineering of Taiyuan University of Technology, and a master's degree in electric power system and automation engineering from the Beijing Graduate School of North China Electric Power University.

**Mr. QU Jiuhui** is an independent non-executive Director of the Company. Mr. QU joined the Group on 16 May 2014. Mr. QU currently serves as a researcher and the director of academic degree evaluation committee of Research Center for Eco-environmental Sciences, the vice director of the National Advisory Council on Eco-environment. Mr. QU served successively as the deputy director and the director of the Research Center for Eco-environmental Sciences, Chinese Academy of Sciences. Mr. QU's research field focused on the science and technology on water quality as well as water pollution control. Mr. QU obtained a PhD degree from Harbin University of Civil Engineering and Architecture. Mr. QU was elected as an academican of Chinese Academy of Engineering in 2009.

**Mr. XIE Qiuye** is an independent non-executive Director of the Company. Mr. XIE joined the Group on 16 May 2014. Mr. XIE currently serves as a senior consultant of the Electric Power Planning and Engineering Institute. Mr. XIE served successively as vice president of Northwestern Electric Power Design Institute, deputy president and chief engineer of China Power Construction Engineering Consulting Corporation; manager of power generation branch of China Power Engineering Consulting (Group) Corporation; president of Central Southern China Electric Power Design Institute; secretary of the Party Committee and president of the Electric Power Planning and Engineering Institute; secretary of the Party Committee and chairman (executive director) of Electric Power Planning and Engineering Institute Co., Ltd.. Mr. XIE obtained a bachelor's degree in thermal energy from Chongqing University. Mr. XIE is a professor-level senior engineer, an expert entitled to Government Special Allowance of the State Council and a national engineering investigation and design master.

**申曉留先生**，為本公司獨立非執行董事。申先生於2016年3月29日加入本集團。申先生現任華北電力大學控制與計算機工程學院教授，國家新能源電力系統重點實驗室、華北電力大學能源互聯網與電力大數據研究所專家。歷任山西臨汾電業局技術員，山西省電業局調度中心工程師，華北電力大學北京研究生部動力系熱自教研室教師，山西省電業局信息中心主任，山西省電力公司教育處副處長。申先生畢業於太原理工大學電機系工業自動化專業並獲得學士學位，亦畢業於華北電力大學北京研究生部，獲得電力系統及其自動化專業工學碩士學位。

**曲久輝先生**，為本公司獨立非執行董事。曲先生於2014年5月16日加入本集團。曲先生現任中國科學院生態環境研究中心研究員及學位委員會主任。兼任國家生態環境諮詢委員會副主任等職務。曲先生曾任中國科學院生態環境研究中心副主任及主任。其研究領域為水質科學與技術，水污染治理等。曲先生獲得哈爾濱建築大學博士學位，並於2009年當選中國工程院院士。

**謝秋野先生**，為本公司獨立非執行董事。謝先生於2014年5月16日加入本集團。謝先生現任電力規劃設計總院高級顧問，歷任西北電力設計院副院長，中國電力建設工程諮詢公司副總經理兼總工程師，中國電力工程顧問集團公司發電工程分公司經理，中南電力設計院院長，電力規劃設計總院黨委書記、院長，電力規劃設計總院有限公司黨委書記、董事長(執行董事)。謝先生獲得重慶大學熱能專業學士學位。謝先生是教授級高級工程師，獲國務院政府特殊津貼專家及全國工程勘察設計大師。



## DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT (CONTINUED) 董事、監事及高級管理人員(續)

**Mr. YEUNG Chi Tat** is an independent non-executive Director of the Company. Mr. YEUNG joined the Group on 8 August 2017. Mr. YEUNG is currently the Deputy President and Executive Council Member the Hong Kong Independent Non-executive Director Association, chief financial officer and company secretary of Solargiga Energy Holdings Limited (HK.757) and a certified public accountant practicing in Hong Kong. He concurrently serves as an independent director of New Hope Dairy Co., Ltd. (SZ.002946), and an independent non-executive director of Sityo Group Holdings Limited (HK.1023) and Birmingham Sports Holdings Limited (HK.2309). He was an independent non-executive director of ANTA Sports Products Limited (HK.2020) from February 2007 to June 2018 and an independent non-executive director of Boer Power Holdings Limited (HK.1685) from September 2010 to June 2020. Mr. YEUNG holds a Bachelor's degree of Business Administration from the University of Hong Kong and a Master's degree of Professional Accountancy with distinction from the Hong Kong Polytechnic University. He is a fellow member of the Institute of Chartered Accountants in England and Wales (ICAEW), the Hong Kong Institute of Certified Public Accountants (HKICPA) and the Association of Chartered Certified Accountants (ACCA), and a Senior International Financial Manager of the International Financial Management Association (IFMA). Mr. YEUNG has worked at a major international accounting firm for over 10 years. Thereafter, he has served as the vice-President, chief financial officer, financial controller and/or company secretary of various Hong Kong listed companies. He has extensive experience in auditing, corporate restructuring, investment, financial management and corporate finance services.

### BOARD OF SUPERVISORS

As of the date of this report, the Board of Supervisors (the “**Supervisors**”) (the “**Board of Supervisors**”) of the Company consists of five members. Save for the employee representative Supervisors that are elected by employees, Supervisors are elected by the Shareholders. Supervisors serve a term of three years after which they may be re-elected or re-appointed. The responsibilities of the Board of Supervisors include, amongst others, reviewing and verifying the financial report, business report and profit distribution plan prepared by the Board of Directors, and (upon doubt, if any) appointing certified public accountants and certified public auditors to re-examine the financial information of the Company; supervising the financial activities of the Company; supervising the performance of Directors, General Manager and other senior management and safeguarding against any breach of the law, administrative regulations and provisions of the AOA in the course of discharging their duties; requiring Directors, General Manager and senior management to correct actions that may harm the interests of the Company and exercising other rights granted to them by the AOA.

楊志達先生，為本公司獨立非執行董事。楊先生於2017年8月8日加入本集團。楊先生現為香港獨立非執行董事協會的常務副會長及常務理事、陽光能源控股有限公司(HK.757)的首席財務官及公司秘書，及香港執業會計師。彼亦為新希望乳業股份有限公司(SZ.002946)的獨立董事、時代集團控股有限公司(HK.1023)及伯明翰體育控股有限公司(HK.2309)的獨立非執行董事。彼自2007年2月至2018年6月擔任安踏體育用品有限公司(HK.2020)的獨立非執行董事，及自2010年9月至2020年6月擔任博耳電力控股有限公司(HK.1685)的獨立非執行董事。楊先生獲香港大學工商管理學士學位以及獲香港理工大學專業會計碩士學位(甲級)。彼為英格蘭及韋爾斯特許會計師公會、香港會計師公會及英國特許公認會計師公會資深會員及國際財務管理協會的高級國際財務管理師。楊先生於一間主要國際會計師行任職超逾十年，其後曾任多間香港上市公司的副總裁、首席財務官、財務總監及／或公司秘書。彼具備核數、企業重組、投資、財務管理及企業融資服務方面的豐富經驗。

### 監事會

截至本報告日止，本公司的監事(「監事」)會(「監事會」)由5名成員組成。除職工代表監事由僱員選出外，監事均由股東選出，任期三年，如獲重選或重新委任可予連任。監事會的職責包括：審閱及核實董事會編製的財務報告、業務報告及利潤分配方案；並(如有疑問)委任執業會計師及執業核數師重新審查本公司的財務資料；監察本公司的財務活動；監察董事、總經理及其他高級管理人員的表現，及監察他們於執行職務時的行為有否違反法律、行政規定及公司章程；要求董事、總經理及高級管理人員糾正有損本公司利益的行動；以及行使《公司章程》賦予他們的其他權力。

## DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT (CONTINUED)

### 董事、監事及高級管理人員(續)

#### SUPERVISORS

The following table sets out certain information relating to the Supervisors during the year ended 31 December 2021. The members of the fourth session of the Board of Supervisors were re-elected and appointed at the 2020 first extraordinary general meeting of the Company held on 7 August 2020. The current term for all the Supervisors will expire on 6 August 2023.

#### 監事

下表列示有關本公司監事截至2021年12月31日止年度的若干信息。本公司於2020年8月7日召開的2020年第一次臨時股東大會上重選及委任了第四屆監事會成員。本公司本屆所有監事的任期將於2023年8月6日屆滿。

Name 姓名	Age 年齡	Position 職位	Date of Joining the Group 加入日期	Date of Appointment/ Election/Re-appointment 委任/獲選/重選日期
Mr. LUAN Baoxing 樂寶興先生	55	Chairman of the Board of Supervisors 監事會主席	9 September 2016 2016年9月9日	Re-appointed on 7 August 2020 2020年8月7日獲重選
Mr. XU Xingzhou <sup>(1)</sup> 許興洲先生 <sup>(1)</sup>	60	Supervisor 監事	16 May 2011 2011年5月16日	Re-appointed on 7 August 2020 2020年8月7日獲重選
Ms. CHEN Jing <sup>(2)</sup> 陳靜女士 <sup>(2)</sup>	46	Supervisor 監事	30 June 2021 2021年6月30日	Appointed on 30 June 2021 2021年6月30日獲委任
Mr. WANG Shaoyu 王少玉先生	55	Supervisor 監事	12 June 2020 2020年6月12日	Re-appointed on 7 August 2020 2020年8月7日獲重選
Mr. LI Wei 李偉先生	48	Employee Representative Supervisor 職工代表監事	10 March 2008 2008年3月10日	Re-appointed on 7 August 2020 2020年8月7日獲重選
Ms. QIN Xiangling <sup>(3)</sup> 秦湘靈女士 <sup>(3)</sup>	47	Employee Representative Supervisor 職工代表監事	6 August 2011 2011年8月6日	Re-appointed on 7 August 2020 2020年8月7日獲重選

#### Notes:

- (1) With effect from 25 May 2021, Mr. XU Xingzhou ceased to be supervisor of the Company due to his retirement. For details, please refer to the announcement of the Company dated 25 May 2021.
- (2) Ms. CHEN Jing was elected as supervisor of the Company at the Company's 2020 annual general meeting held on 30 June 2021 and will hold office until the expiration of the term of the fourth session of the Board of Supervisors. For details, please refer to the announcement of the Company dated 30 June 2021.
- (3) With effect from 15 November 2021, Ms. QIN Xiangling ceased to be a supervisor of the Company due to work adjustment. For details, please refer to the announcement of the Company dated 15 November 2021.

#### 附註：

- (1) 因達到退休年齡，自2021年5月25日起，許興洲先生不再擔任本公司監事。有關詳情，請參閱本公司日期為2021年5月25日的公告。
- (2) 陳靜女士於本公司2021年6月30日召開的2020年股東週年大會上獲選舉為本公司監事，任期至第四屆監事會任期屆滿。有關詳情請參閱本公司日期為2021年6月30日的公告。
- (3) 因工作調整，自2021年11月15日起，秦湘靈女士不再擔任本公司監事。有關詳情，請參閱本公司日期為2021年11月15日的公告。

## DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT (CONTINUED)

### 董事、監事及高級管理人員(續)

**Mr. LUAN Baoxing** is the Chairman of the Board of Supervisors of the Company. Mr. LUAN joined the Group on 9 September 2016. He concurrently serves as the Director and Party Secretary of the Finance Department of China Energy, the director of Guodian Power Development Co., Ltd. (600795), the director of China Energy Capital Holdings Co., Ltd. and the supervisor of China Energy Shandong Electric Power Co., Ltd. Mr. LUAN has served successively as Deputy Director of the Property and Funds Office and Director of the Accounting and Cost Office of the Finance Department of Heilongjiang Electric Power Co., Ltd.; Deputy Director and Director of the Accounting and Cost office of the Finance Department of Northeast China Electric Power Group; Deputy Director of the Finance Department of the Guodian Northeast Electric Power Co., Ltd.; Deputy Chief Accountant and Director of the Finance Department of Chongqing Electric Power Company; Deputy Director of the Property Rights and Finance Department, Deputy Director of the Capital and Property Rights Management Department of Guodian Group Corporation; General Manager and Deputy Secretary of the Leading Party Members' Group of the Guodian Capital Holdings Co., Ltd.; Chairman, General Manager and Deputy Secretary of the Leading Party Members' Group of Guodian Finance Co., Ltd.; Chairman of Guodian Finance & Leasing Co., Ltd.; Director of Finance Management Department of Guodian Group Corporation; and Director and Party Secretary of the Finance Department of China Energy. Mr. LUAN graduated from Heilongjiang University with a bachelor's degree in Accounting and later graduated from Harbin Institute of Technology with a master's degree in MBA. Mr. LUAN is a professor-level senior Accountant, an International Certified Public Accountant by ACCA and a Certified Public Accountant (CPA) in China.

**Ms. CHEN Jing** is a Supervisor of the Company. Ms. CHEN currently serves as the director of the International Cooperation Department (Overseas Cooperation Department, Office of Cooperation with the United States) of China Energy. Ms. Chen joined the Group on 30 June 2021. Ms. Chen successively served as a staff member of the Foreign Affairs Bureau of North China Electric Power Company; staff member of the International Cooperation Department of the National Power Company; second-level staff of the International Cooperation Division of the General Manager Work Department of Guodian Group; deputy chief of the Comprehensive Division of the International Cooperation and Overseas Business Department of the Guodian Group, head of the Comprehensive Division of the International Cooperation Department, and deputy chief of the International Cooperation and Overseas Business Department; deputy chief of International Cooperation Department (Overseas Cooperation Department) of China Energy, deputy chief of International Cooperation Department (Overseas Cooperation Department, Office of Cooperation with the United States), and head of International Cooperation Department (Department of Overseas Cooperation, Office of Cooperation with the United States). Ms. Chen graduated from Taiyuan University of Technology with a bachelor's degree in English for Science and Technology, and a master's degree from Renmin University of China with a major in World Economics.

**樂寶興先生**，為本公司監事會主席。樂先生於2016年9月9日加入本集團。樂先生同時擔任國家能源集團財務部主任、書記，兼任國電電力發展股份有限公司(600795)董事、國家能源集團資本控股有限公司董事。樂先生歷任黑龍江省電力公司財產資金處副處長、財務部會計成本處處長，中國東北電力集團公司財務部會計成本處副處長、處長，國家電力公司東北公司財務部副主任，重慶電力公司副總會計師兼財務部主任，國電集團財務產權部副主任、資本運營與產權管理部副主任、資本運營與產權管理部主任，國電資本控股有限公司總經理、黨組副書記，國電財務有限公司董事長、總經理、黨組副書記，國電融資租賃有限公司董事長，國電集團財務管理部主任，國家能源集團財務部主任、副書記。樂先生畢業於黑龍江大學會計學專業，獲得學士學位；亦畢業於哈爾濱工業大學MBA專業，獲得碩士學位。樂先生是正高級會計師、國際註冊會計師(ACCA)、中國註冊會計師(CPA)。

**陳靜女士**，為本公司監事。陳女士現任國家能源集團國際合作部(境外合作部、對美合作辦公室)主任。陳女士於2021年6月30日加入本集團。陳女士歷任華北電力集團公司外事局職員；國家電力公司國際合作部職員；國電集團總經理工作部國際合作處二級職員；國電集團國際合作與海外業務部綜合處副處長，國際合作部綜合處處長，國際合作與海外業務部副主任；國家能源集團國際合作部(境外合作部)副主任，國際合作部(境外合作部、對美合作辦公室)副主任，國際合作部(境外合作部、對美合作辦公室)主任。陳女士畢業於太原理工大學科技英語專業並取得學士學位，亦於中國人民大學取得世界經濟專業碩士學位。

## DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT (CONTINUED)

### 董事、監事及高級管理人員(續)

**Mr. WANG Shaoyu** is a Supervisor of the Company. Mr. WANG concurrently serves as the Director of the Audit Department and Secretary of the CPC Branch of China Energy Investment Group Co., Ltd. He joined the Group on 12 June 2020. Mr. WANG has served successively as Secretary of the Research Office, Deputy Chief, Director of the Office in Beijing, Executive Deputy Director of the Research Office of Shanxi Jincheng Mining Bureau; Consultant of the Policy and Regulations Department of the Ministry of Coal Industry; Consultant of the Industry Management Department of the State Administration of Coal Industry of the PRC; Deputy Office Director, Manager of the Planning Department, and Office Director of the Shenhua Coal Transportation and Marketing Company; Secretary of the General Office and Public Relations Business Manager and Senior Manager of the Shenhua Group Co., Ltd.; General Office Director, Deputy Director and Director of the Shenhua Group Co., Ltd. and China Shenhua Energy Co., Ltd.; Director of the Office of the Leading Party Members' Group of Shenhua Group Co., Ltd.; Director and Deputy Secretary of the General Office, Director and Secretary of CPC Branch of the General Management Department of China Energy Investment Group. Mr. WANG graduated from Tongji University with a Bachelor's degree of Engineering in Surveying Engineering at the Department of Surveying, and also graduated from Tongji University with a Master's degree in Management Science and Engineering. Mr. WANG is a senior engineer.

**Mr. LI Wei** is an employee representative Supervisor of the Company. Mr. LI joined the Group on 10 March 2008. Mr. LI serves concurrently as the deputy general economic manager and the director of the audit department of the Company. Mr. LI served successively as the deputy director of the audit department and the deputy director of the financial department of China National Electronic Materials Corporation; the deputy chief accountant of United Power; and the deputy director of the supervision and audit department and the director of supervision department (disciplinary inspection office) of the Company. Mr. LI obtained a bachelor's degree in economics from Hangzhou Dianzi University and a degree of MBA from Beijing University of Aeronautics and Astronautics. Mr. LI is a senior accountant.

**王少玉先生**，為本公司監事。王先生同時擔任國家能源投資集團有限責任公司審計部主任、黨支部書記。王先生於2020年6月12日加入本集團。王先生歷任山西省晉城礦務局調研室秘書、副科長、駐京辦事處主任、調研室常務副主任，煤炭工業部政策法規司調研員，國家煤炭工業局行業管理司調研員，神華煤炭運銷公司辦公室副主任、計劃部經理、辦公室主任，神華集團有限責任公司辦公廳文祕與公共關係業務經理、高級經理，神華集團有限責任公司、中國神華能源股份有限公司辦公廳主任、副主任、主任，神華集團有限責任公司黨組辦公室主任，國家能源投資集團有限責任公司辦公廳主任、副書記，綜合管理部主任、黨支部書記。王先生畢業於同濟大學測量系測量工程專業，獲得工學學士學位，亦畢業於同濟大學管理科學與工程專業，獲得管理學碩士學位。王先生是高級工程師。

**李偉先生**，為本公司的職工代表監事。李先生於2008年3月10日加入本集團。李先生同時擔任本公司副總經濟師兼內控審計部主任。李先生歷任中國電子物資總公司審計處副處長及財務部副總經理，聯合動力副總會計師，本公司審計部副經理、監察審計部副經理、監察部(紀檢辦)經理。李先生畢業於杭州電子科技大學會計專業，獲得經濟學學士學位；亦畢業於北京航空航天大學工商管理專業，獲得碩士學位。李先生是高級會計師。

## DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT (CONTINUED)

### 董事、監事及高級管理人員(續)

**Ms. QIN Xiangling**, is an employee representative Supervisor of the Company. Ms. QIN joined the Group on 6 August 2011. Ms. QIN serves concurrently as the general legal counsel, board secretary of the Company and the director of the Department of Securities and Legal Affairs (the Board of Directors Office). Ms. QIN successively served as the translator of Tuoketuo Power Plant Preparation and Construction Office of Inner Mongolia Electricity Management Bureau, the specialist of the Engineering Department of Lake Dai Power Plant and Shangdu Power Plant Preparation and Construction Office of Inner Mongolia Electric Power Company, the translator of the General Office of Inner Mongolia Power (Group) Co., Ltd., the deputy director of General Manager Working Department of Inner Mongolia Energy Investment Company Limited, the deputy director of the Leading Group Office of Restructuring of Inner Mongolia Western Natural Gas Co., Ltd., the director and office director of Foreign Economic Cooperation Department of Inner Mongolia Energy Investment Company Limited, the director of General Office of Inner Mongolia Guodian Energy Investment Company Limited, the deputy manager of the General Office (the Department of Legal Affairs), the deputy manager of the Department of Enterprise Management and Legal Affairs and the manager of the Department of Securities Financing and Legal Affairs (the Board of Directors Office) of the Company. Ms. QIN graduated from North China Electric Power University with a doctorate degree in management, majoring in technical economics and management. Ms. QIN is a senior economist.

秦湘靈女士，為本公司的職工代表監事。秦女士於2011年8月6日加入本集團。秦女士同時擔任本公司總法律顧問、董事會秘書及證券與法律事務部(董事會辦公室)主任。秦女士歷任內蒙古電管局托克托電廠籌建處翻譯，內蒙古電力公司岱海電廠與上都電廠籌建處工程部專工，內蒙古電力集團有限責任公司辦公室翻譯，內蒙古能源發電投資有限公司總經理工作部副主任，內蒙古西部天然氣股份有限公司重組工作領導小組辦公室副主任，內蒙古能源發電投資有限公司對外經濟協作部主任、辦公室主任，內蒙古國電能源發電投資有限公司辦公室主任，本公司辦公室(法律事務部)副經理、企業管理與法律事務部副經理、證券融資與法律事務部(董事會辦公室)經理。秦女士畢業於華北電力大學技術經濟與管理專業獲得管理學博士學位。秦女士是高級經濟師。

## DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT (CONTINUED)

### 董事、監事及高級管理人員(續)

#### SENIOR MANAGEMENT

#### 高級管理人員

The following table sets out certain information relating to the senior management of the Company during the year ended 31 December 2021 and up to the date of this report.

下表載列有截至2021年12月31日止年度本公司高級管理人員的若干資料。

Name 姓名	Age 年齡	Current position 現任職位	Date of Joining the Group 加入日期
Mr. CHEN Dongqing 陳冬青先生	56	Secretary of the Party Committee, Chairman of Board of Directors 黨委書記、董事長	29 March 2016 2016年3月29日
Mr. LI Caiyun 李彩雲先生	53	Deputy Secretary of the Party Committee, General Manager 黨委副書記、總經理	15 July 2014 2014年7月15日
Mr. GAO Zhenxiang 高振祥先生	52	Member of the Party Committee, Chief Accountant 黨委委員、總會計師	7 June 2021 2021年6月7日
Mr. ZHANG Xiaodong 張曉東先生	46	Member of the Party Committee, Deputy General Manager and Chairman of the Labor Union 黨委委員、副總經理、工會主席	1 November 2010 2010年11月1日
Mr. ZHAO Zhe 趙先生	43	Member of the Party Committee and Deputy General Manager 黨委委員、副總經理	1 July 2008 2008年7月1日

**Mr. CHEN Dongqing** – Please see details under the section headed “Board of Directors” above.

**陳冬青先生** – 請參閱上文「董事會」部份相關內容。

**Mr. LI Caiyun** – Please see details under the section headed “Board of Directors” above.

**李彩雲先生** – 請參閱上文「董事會」部份相關內容。

**Mr. GAO Zhenxiang** is a member of the Party Committee and the chief accountant of the Company. Mr. GAO joined the Group on 7 June 2021. Mr. GAO was successfully manager assistant, vice manager, manager and vice chief accountant of the Finance Department of Shenhua Shendong Electric Power, vice-general manager of Yulin Shenhua Energy Co., Ltd., vice-general manager and CFO of Shenhua Logistics Group, and member of the Party Committee and chief accountant of China Shenhua International Engineering Co., Ltd. Mr. GAO graduated from Xi'an University of Finance and Economics with a bachelor's degree in management, and from Xi'an Jiaotong University with MBA. Mr. GAO is a senior economist and accountant.

**高振祥先生**，為本公司黨委委員、總會計師。高先生於2021年6月7日加入本集團。高先生歷任神華神東電力公司財務部經理助理、財務部副經理、財務部經理、副總會計師，榆林神華能源公司副總經理，神華物資集團公司副總經理、財務總監，中國神華國際工程公司黨委委員、總會計師。高先生畢業於西安財經學院，獲得管理學學士學位，也畢業於西安交通大學工商管理專業，獲得碩士學位。高先生是高級經濟師、會計師。

## DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT (CONTINUED)

### 董事、監事及高級管理人員(續)

**Mr. ZHANG Xiaodong** is a member of the Party Committee, a deputy general manager, the chairman of the labor union of the Company. Mr. ZHANG joined the Group on 1 November 2010. Mr. ZHANG served successively as the project principal of Energy Conservation Information Dissemination Center and the project principal of the project construction division of the Information Center of the State Economic and Trade Commission; the deputy director of research and consulting division of the SASAC's Information Center and the director of the application and development division of the SASAC's Information Center and the chairman of the board of directors of United Power. Mr. ZHANG obtained a bachelor's degree in electric technology from Taiyuan Heavy Machinery Institute and a degree of MBA from Beijing University of Aeronautics and Astronautics. Mr. ZHANG is a senior engineer.

**Mr. ZHAO Zhe** is a member of the CPC Committee and Deputy General Manager of the Company. Mr. ZHAO concurrently serves as the Secretary of the CPC Committee and Chairman of Longyuan Environmental. He joined the Group on 1 July 2008. Mr. ZHAO has served successively as Project Manager of the Design Department of Longyuan Environmental; Deputy Manager of the Technology Department of Guodian Technology and Environment Group Limited; Deputy Director of the Talent Management Department of Guodian New Technology Research Institute; Deputy Director of the General Management Office and Director of the Compensation Management Office of the Human Resources Department, and Director of the Leadership Personnel Management Office of Guodian Group; Deputy Secretary of the CPC Committee and General Manager of the Longyuan Environmental; and Assistant Director of the Operation and Management Center for Science, Technology and Environmental Protection Industry of China Energy. Mr. ZHAO graduated from the Environmental Engineering Department of Tsinghua University and received a PhD in Engineering. Mr. ZHAO is a senior engineer.

### MEMBERS OF THE PARTY COMMITTEE

A new Party Committee of the Company was set up on August 2021. By 31 December 2021, Mr. Chen Dongqing is the secretary of the Party Committee of the Company, Mr. LI Caiyun is the vice-secretary of the Party Committee, Mr GAO Zhenxiang, Mr. ZHANG Xiaodong, Mr. GONG Zhenguang and Mr. ZHAO Zhe are members of the Party Committee. Mr. GONG Zhenguang is concurrently the secretary of the Disciplinary Inspection Committee. Please refer to the following for the resume of Mr. GONG Zhenguang, and to the section headed "Board of Directors" and "Senior Management" above for resumes of other members of the Party Committee.

**張曉東先生**，為本公司黨委委員、副總經理、工會主席。張先生於2010年11月1日加入本集團。張先生歷任國家經貿委節能信息傳播中心項目負責人以及國家經貿委信息中心項目建設處項目負責人，國資委信息中心研究諮詢處副處長、國資委信息中心應用開發處處長及聯合動力董事長。張先生畢業於太原重型機械學院，獲得電氣技術學士學位；亦畢業於北京航空航天大學工商管理專業，獲得碩士學位。張先生是高級工程師。

**趙喆先生**，為本公司黨委委員，副總經理。趙先生目前兼任龍源環保黨委書記、董事長。趙先生於2008年7月1日加入本集團。趙先生歷任龍源環保設計部項目經理，國電科技環保集團有限公司技術部副經理，國電新能源技術研究院人才工作部副主任，國電集團人力資源部綜合管理處副處長，國電集團人力資源部薪酬管理處處長，國電集團人力資源部領導人員管理處處長，龍源環保黨委副書記、總經理，國家能源集團科技環保產業運營管理中心主任助理。趙先生畢業於清華大學環境科學工程專業，獲得清華大學工學博士學位。趙先生是高級工程師。

### 黨委成員

2021年8月，本公司成立新一屆黨委。截至2021年12月31日止，陳冬青先生任本公司黨委書記，李彩雲先生任黨委副書記，高振祥先生、張曉東先生、宮振光先生及趙喆先生任黨委委員，宮振光先生選任紀委書記。宮振光先生簡歷參見下文，其他黨委成員簡歷請見上文「董事會」及「高級管理人員」部份相關內容。

## DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT (CONTINUED)

### 董事、監事及高級管理人員(續)

**Mr. GONG Zhenguang** is a member of the Party Committee and the secretary of the Disciplinary Inspection Committee of the Company. Mr. GONG joined the Group on 28 December 2019. Mr. GONG served successively as the office secretary of Dadougou Mine of Datong Mining Bureau; the assistant economist of the Office of Shuohuang Railway Development Co., Ltd.; the supervisor of comprehensive business of the Supervision and Audit Department, the business manager of the Case Inspection Division of the Supervision Department, the director of the Second Division of the Supervision Department of Shenhua Group Corporation Limited; the director of the Audit Division and the director of the Fourth Office of the Supervision Team of the Supervision Department of China Energy. Mr. GONG graduated from Shanxi University with a major in administration and obtained a master's degree in public administration from China University of Political Science and Law. Mr. GONG is a senior economist.

### JOINT COMPANY SECRETARIES

Mr. CAI Zhaowen and Mr. LEE Kwok Fai Kenneth resigned from the position of the joint company secretary and the company secretary of the Company with effect from 22 January 2021 and 28 December 2021, respectively. For details, please refer to the announcements of the Company dated 22 January 2021 and 28 December 2021.

The Company has appointed Ms. NG Sau Mei, a director of TMF Hong Kong Limited, an external service provider, as the company secretary of the Company (the "**Company Secretary**") with effect from 28 December 2021.

Ms. NG Sau Mei currently serves an associate director of the listing services department of TMF Hong Kong Limited and is responsible for provision of corporate secretarial and compliance services to listed company clients. Ms. Ng previously worked for several major and renowned Hong Kong main board listed companies, and she currently serves as company secretary or joint company secretary for numerous listed companies such as Metallurgical Corporation of China Ltd. and China Reinsurance (Group) Corporation. Ms. Ng has accumulated over 20 years of experience in the professional company secretarial field, and she is a fellow member of both The Hong Kong Chartered Governance Institute and The Chartered Governance Institute in the United Kingdom.

宮振光先生，為本公司黨委委員、紀委書記。宮先生於2019年12月28日加入本集團。宮先生歷任大同礦務局大門溝礦辦公室秘書，朔黃鐵路發展有限責任公司辦公室助理經濟師，神華集團有限責任公司紀檢監察審計部綜合業務主管、紀檢監察部案件檢查處業務經理、紀檢監察部紀律審查二處處長，國家能源集團紀檢監察部審查處處長、紀檢監察組四室主任。宮先生畢業於山西大學行政管理專業，獲得中國政法大學公共管理碩士學位。宮先生是高級經濟師。

### 公司秘書

蔡兆文先生及李國輝先生分別於2021年1月22日及2021年12月28日辭任本公司之聯席公司秘書及公司秘書職務，有關詳情請參閱本公司日期為2021年1月22日及2021年12月28日的公告。

本公司已委任外部服務供應商達盟香港有限公司之董事伍秀薇女士為本公司的公司秘書(「**公司秘書**」)，自2021年12月28日生效。

伍秀薇女士為達盟香港有限公司上市公司服務部副董事，負責向上市公司客戶提供公司秘書及合規服務。伍女士曾於若干大型及著名的香港主板上市公司工作，現時為中國冶金科工股份有限公司、中國再保險(集團)股份有限公司等多家上市公司的公司秘書或聯席公司秘書。伍女士已累積及擁有逾20年專業公司秘書行業經驗，並為香港公司治理公會及英國特許公司治理公會資深會士。



# REPORT OF THE BOARD OF DIRECTORS

## 董事會報告

The Board of Directors hereby presents to Shareholders this report and the audited consolidated financial statements of the Group for the year ended 31 December 2021 (the “**Financial Statements**”).

### SHARE CAPITAL

As of 31 December 2021, the total issued share capital of the Company was 6,063,770,000 shares, which include 4,754,000,000 domestic shares and 1,309,770,000 H shares, the total amount of share capital of the Company was RMB6,063,770,000 and the par value per share was RMB1.0 each. Details of movement in the share capital of the Company during the year ended 31 December 2021 are set out in Note 38(c) to the Financial Statements.

### PURCHASE, SALE OR REDEMPTION OF THE COMPANY'S LISTED SECURITIES

Neither the Company nor any of its subsidiaries purchased, sold or redeemed any of the Company's listed securities during the year ended 31 December 2021.

### PRE-EMPTIVE RIGHTS

According to the AOA or the PRC law, there are no provisions for pre-emptive rights requiring the Company to offer new shares to the existing Shareholders of the Company in proportion to their shareholdings.

### TAX RELIEF

The Board of Directors is not aware of any tax relief available to the Shareholders by reason of their holding of the Company's securities.

### PRINCIPAL BUSINESS

The Company is principally engaged in (1) the business of environmental protection and energy conservation solutions, and (2) the business of renewable energy equipment manufacturing and service. The Company offers diversified products and services and uses diversified business models in its business operations. Details of the subsidiaries and associates of the Company are set out in Notes 20 and 21 to the Financial Statements.

### RESULTS

The annual results of the Company and its subsidiaries for the year ended 31 December 2021 and the statement of financial position of the Company and its subsidiaries as of 31 December 2021 are set out in the Financial Statements of this report.

本公司董事會現向股東提呈其於2021年的年度報告及經審核財務報表(「**財務報表**」)。

### 股本

於2021年12月31日，本公司已發行股本總數為6,063,770,000股，其中包括4,754,000,000股內資股及1,309,770,000股H股，股本總額為人民幣6,063,770,000元，每股面值人民幣1.0元。本公司股本於本年度的變動詳情載於財務報表附註38(c)。

### 購買、出售或贖回本公司上市證券

本公司或其任何附屬公司於截至2021年12月31日止年度未購買、出售或贖回本公司任何上市證券。

### 優先購股權

根據《公司章程》或中國法律並無存在要求本公司按現有股東持股比例向其發售新股的優先購股權的規定。

### 稅務補助

董事會並不知悉任何因股東持有本公司證券而向他們提供的稅務補助。

### 主營業務

本公司的主營業務為(1)環保及節能解決方案業務，以及(2)可再生能源設備製造及服務業務。本公司供應多元化的產品及服務，並於開展業務時使用多樣化的業務模式。本公司附屬公司及聯營公司的詳情分別載於財務報表附註20及21。

### 業績

本公司及其附屬公司截至2021年12月31日止年度的業績以及本公司及其附屬公司於2021年12月31日的財務狀況載於本報告財務報表。

# REPORT OF THE BOARD OF DIRECTORS (CONTINUED)

## 董事會報告(續)

### BUSINESS REVIEW

A discussion and analysis on results performance during the year ended 31 December 2021 and material factors underlying its results and financial position and business prospect of the Group are set out in the Management's Discussion and Analysis section of this report. Details of financial risk management of the Group are set out in Note 40 to the Financial Statements.

### RELATIONSHIP WITH THE CONNECTED PERSONS OF PRINCIPAL BUSINESS

#### Employees

As of 31 December 2021, the Group had 4,125 employees in total. In accordance with the applicable national laws and regulations and the applicable regulations of China Energy, the Group has established a clear and transparent human resources ("HR") system, including over 40 HR rules and regulations at all levels, in order to protect the legitimate rights and interests of the employees. The Group has established and improved the management system of total salary based on market value and performance evaluation. The salary of staff is composed of basic salary, performance salary and reward salary. The performance salary is determined on the basis of company performance and performance evaluation, and reward salary is determined according to the completion of the company's annual key work. The Group will pay social insurance premiums, housing funds, corporate annuities, etc., for the employees strictly in accordance with applicable national and local government policies and regulations. The Group also attaches great importance to the selection, training, incentive and development of talents, concentrates all kinds of superior resources on high-potential and high-performance employees.

#### Suppliers

The Group requires its subsidiaries to learn from the advanced experience in the industry, optimize the development process of qualified suppliers, introduce excellent suppliers of leading enterprises in the industry, speed up the verification and probation process of new suppliers, develop a reasonable development plan and procurement proposal, and assess and evaluate its suppliers from time to time.

### 業務審視

有關本集團本年度的業績表現、影響業績和財務狀況的重要因素及業務展望的討論及分析，載於本報告的「管理層討論與分析」一節。有關本集團財務風險管理的詳情載於財務報表附註40。

### 與主要業務有關人士的關係

#### 員工

於2021年12月31日，本集團共有員工4,125人。依據國家相關法律法規及國家能源集團相關規定，本集團建立了清晰透明的人力資源制度，包括各級人力資源制度共40餘項，切實保障了員工的合法權益。本集團建立和完善了以市場價值為導向、以績效考核為基礎的工資總額管理體系，員工薪酬由基本工資、績效工資和獎勵工資三部份組成，績效工資依據公司業績及績效考核情況確定，獎勵工資依據公司年度重點工作完成情況確定，並嚴格按照國家和地方政府有關政策法規為員工繳納各項社會保險、住房公積金、企業年金等。本集團亦十分重視人才的選拔、培養、激勵和發展工作，集中各類優勢資源向高潛力、高績效員工傾斜。

#### 供應商

本集團要求附屬公司學習行業內先進經驗，優化合格供應商開發流程，引進行業內排名靠前的企業的優秀供應商，加快新開發供應商驗證試用環節，制定合理的開發計劃，亦不時對供應商作出考核和評價。

# REPORT OF THE BOARD OF DIRECTORS (CONTINUED)

## 董事會報告(續)

### ORDERLY ADVANCING RULE BY LAW AND COMPLIANCE

In 2021, the Group continued to further put forward and implement the Opinion on Comprehensively Promoting the Construction of Central Enterprises under the Rule by Law and the Regulations on the Principal Responsible Persons of Central Enterprises Carrying out the Duties of the First Responsible Person in Promoting the Construction of the Rule of Law of SASAC, the Central Enterprise Compliance Management Guidelines (Trial), as well as the Implementation Plan for Comprehensively Promoting the Construction of "Energy in the Country Ruled by Law", the Regulations on the Principal Responsible Persons of Central Enterprises Carrying out the Duties of the First Responsible Person in Promoting the Construction of the Rule by Law, and the Regulations on Compliance Management of China Energy, and comprehensively enhanced the rule-by-law and compliance construction of the Group from the aspects of strengthening organization and leadership, perfecting the working mechanism, cultivating the culture of ruling by law, deepening the management of enterprises according to law, operating according to rules and regulations, etc.

### COMPLIANCE WITH LAWS

The Group requires its subsidiaries to strictly abide by national laws and local regulations and industry standards. The relevant departments of the Group are responsible for monitoring, supervising and inspecting the management and implementation of laws and regulations of the subsidiaries on a regular basis and assessing their implementation and compliance in these areas from time to time. In 2021, the Company did not have any event that had materially violated or had not been in compliance with the laws and regulations applicable to the Group and had a significant impact on the Group's business and operation.

### ENVIRONMENTAL POLICIES

As an enterprise providing environmental protection, energy conservation and renewable energy equipment and services, the Group has always attached importance to the national environmental protection policies and fulfilled its social responsibility from the perspective of the survival and development of enterprises. The Group strictly complies with the Environmental Protection Law of the PRC, the Law on the Prevention and Control of Environmental Pollution by Solid Wastes of the PRC and the Air Pollution Prevention and Control Law of the PRC and the applicable industrial and local environmental protection rules and regulations of each affiliate, strictly complies with the environmental protection requirements of projects to ensure that the environmental protection facilities and the main project are designed, constructed, and put into production at the same time, so as to achieve efficient operation and meet emission standards.

### 法治合規工作有序推進

2021年，本集團繼續深入貫徹落實國務院國資委《關於全面推進法治央企建設的意見》、《中央企業主要負責人履行推進法治建設第一責任人職責規定》、《中央企業合規管理指引(試行)》以及國家能源集團《關於全面推進「法治國家能源」建設的實施方案》、《企業主要負責人履行推進法治建設第一責任人職責若干規定》及《合規管理規定》的有關要求，從加強組織領導、完善工作機制、培育法治文化、深化依法治企、合規經營等方面全面推進本集團法治合規建設各項工作。

### 法律遵守情況

本集團要求附屬公司嚴格遵守國家法律及各地規章、各行業準則。本集團相關部門負責定期及不時監測、監督及檢查各附屬公司的法律法規管理及執行情況，且評估其於該等領域的執行及遵守情況。於2021年年內，本公司並無發生重大違反或不遵守本集團適用的法律法規，且對本集團業務及經營造成重要影響的事件。

### 環保政策

作為一家提供環保節能及可再生能源設備及服務的企業，本集團一貫從企業生存和發展的高度，重視國家的環保政策，履行企業的社會責任。嚴格落實《中華人民共和國環保法》、《中華人民共和國固體廢物污染環境防治法》、《中華人民共和國大氣污染防治法》等法規及各附屬公司適用的行業及地方環保制度及規定，嚴格執行項目的環保要求，確保環保設施和主體工程同時設計、施工、投產，實現高效運行和達標排放。

## REPORT OF THE BOARD OF DIRECTORS (CONTINUED)

### 董事會報告(續)

Taking Longyuan Environmental as an example, in order to cope with the supervision of the environmental protection facilities from governments at all levels and ensure that the facilities for the desulfurization and denitrification projects were operated stably and meet the discharge standards, a series of effective measures were taken, which include constructing the safety control system and HSE system of the National Occupational Safety Association, carrying out standardized construction of the operation management, carrying out regular random check of the equipment to ensure no leakage, implementing full coverage of technical supervision, strengthening the control of the field operation indicators and continuing to strengthen safety and civilization standardization. These have improved the level of standardization in the safety and operation management of the project company in an all-round manner. In 2021, there was no environmental violation that had a significant impact on the Group.

As of 31 December 2021, there was no environmental event which had a significant impact on the Group's operational, financial or business prospects.

The above discussion forms part of this Report of the Board of Directors.

### DIVIDEND

The Board of Directors does not recommend the payment of a final dividend for the year ended 31 December 2021.

To the best knowledge of the Board of the Directors, no Shareholder has declared or agreed to give up any dividend.

### DIVIDEND POLICY

The Company has adopted a policy aimed at providing a stable dividend to the Shareholders (the "Dividend Policy"). Pursuant to the Dividend Policy, the Company intends to provide interim or annual dividends to the Shareholders and to declare special dividends from time to time. The Company intends to pay dividends after taking into account, among other factors, the actual and expected financial performance of the Company; the undistributed profits and distributed reserves of the Group; the Group's Debt-to-Equity ratio, return on equity and related financial covenants; any restrictions that may be imposed by the Group's lenders on the payment of dividends; the Group's expected working capital requirements and future expansion plans; the general financial conditions of the Group, the business cycles of the Group's operations and other internal or external factors that may affect the Group's business or financial performance and position; and any other factors that the Board of Directors considers appropriate.

以龍源環保為例，為更好的迎接各級政府對環保設施的監管，保證各脫硫脫硝項目設施穩定運行，達標排放，其採取了一系列有效的舉措，進行了安全管控系統建設及國家職業安全協會安健環體系建設，推行運行管理標準化建設，開展設備無滲漏治理常態化抽查，落實技術監督全覆蓋，加強現場運行指標管控，繼續加強安全文明標準化整治，全面提升了項目公司安全、運行管理工作規範化水準。本年度未發生對本集團有重大影響的環境違規事件。

截至2021年12月31日止，未發生對本集團營運、財務或經營前景產生重大影響的環保事件。

以上討論屬本董事會報告的一部分。

### 股息

董事會不建議派發截至2021年12月31日止年度之末期股息。

就董事會所知，概無任何股東聲明已放棄或同意放棄任何股息。

### 股息政策

本公司採納了一套旨在向股東提供穩定股息的政策(「股息政策」)。根據股息政策，本公司擬向股東提供中期或年度股息，並不時宣派特別股息。本公司擬於考慮(其中包括)以下因素後支付股息：本公司的實際財務表現及預期財務表現；本集團的未分配利潤及可分配儲備金；本集團的債務股本比率、股本回報率及相關財務約定事項；本集團的貸款方就派付股息可能施加的任何限制；本集團的預期營運資金需求及未來擴張計劃；本集團的一般財務狀況、本集團業務的商業週期及或會影響本集團業務或財務表現及狀況的其他內外因素；及董事會視為適當的任何其他因素。

## REPORT OF THE BOARD OF DIRECTORS (CONTINUED)

### 董事會報告(續)

The Company does not have any pre-determined dividend payout ratio. The declaration and payment of dividends by the Company shall be at the sole discretion of the Board of Directors and shall be determined in accordance with the AOA, the Company Law of the PRC, the Enterprise Income Tax Law of the PRC and any other applicable laws and regulations; and the declaration of any dividend in any year shall be subject to the approval of the shareholders. The Board of the Directors will keep the Dividend Policy under review and revise it as necessary to ensure its effectiveness.

### PROPERTY, PLANT AND EQUIPMENT

Details of the movements in property, plant and equipment of the Company and its subsidiaries during the year are set out in Note 15 to the Financial Statements.

### RESERVES

Details of the movements in reserves of the Company during the year are set out in Note 38(a) to the Financial Statements, among which, details of reserves available for distribution to the Shareholders as of 31 December 2021 are set out in Note 38(e) to the Financial Statements.

### BANK LOANS AND OTHER BORROWINGS

Details of bank loans and other borrowings of the Company and its subsidiaries as of 31 December 2021 are set out in Note 30 to the Financial Statements.

### DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT

The relevant information of the Directors, Supervisors and senior management of the Company during the year ended 31 December 2021 and up to the date of this report, such as name, position in the Company and date of joining/appointment/re-election/resignation, is set out in the Directors, Supervisors and Senior Management section of this report.

The Company has received, from each of the independent non-executive Directors, an annual confirmation of his independence pursuant to Rule 3.13 of the Rules Governing the Listing of Securities on The Stock Exchange of Hong Kong Limited (the "Listing Rules") and considers that all of the independent non-executive Directors are independent of the Company.

### CHANGES OF INFORMATION OF DIRECTORS, SUPERVISORS AND CHIEF EXECUTIVE

As at the date of this report, there is no change of information about the Directors, Supervisors and chief executive of the Company which shall be disclosed pursuant to Rule 13.51B(1) of the Listing Rules.

本公司並無任何預定股息分派比率。本公司宣派及派付股息須由董事會全權酌情決定，並根據本公司章程、《中華人民共和國公司法》、《中華人民共和國企業所得稅法》以及任何其他適用法律及法規決定是否派息，宣派任何年度的任何股息須待股東批准後方可實施。董事會將會持續檢討股息政策，根據需要適時作出修訂，以確保本政策行之有效。

### 物業、廠房及設備

本公司及其附屬公司物業、廠房及設備於本年度的變動詳情載於財務報表附註15。

### 儲備

本年度內本公司儲備的變動詳情載於財務報表附註38(a)，其中截至2021年12月31日止可供分配予股東的儲備詳情載於財務報表附註38(e)。

### 銀行貸款及其他借款

關於本公司及其附屬公司於2021年12月31日之銀行貸款及其他借款的詳情載於財務報表附註30。

### 董事、監事和高級管理人員

截至2021年12月31日止年度及直至本報告日期，本公司董事、監事和高級管理人員的有關資料，如姓名、本公司職位及加入／委任／重選／辭任日期，載於本報告的「董事、監事及高級管理人員」一節。

本公司已收到每名獨立非執行董事根據香港聯合交易所有限公司證券上市規則(「上市規則」)第3.13條就其各自的獨立性出具的年度確認書，並認為每名獨立非執行董事均獨立於本公司。

### 董事、監事及行政總裁資料變動

截止本報告日期，本公司無有關董事、監事及本公司行政總裁之任何資料變動須根據上市規則第13.51B(1)條規定須予披露。

# REPORT OF THE BOARD OF DIRECTORS (CONTINUED)

## 董事會報告(續)

### BIOGRAPHIES OF DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT

Biographical details of Directors, Supervisors and senior management are set out in the section headed “Directors, Supervisors and Senior Management” of this report.

### SERVICE CONTRACTS OF THE DIRECTORS AND SUPERVISORS

In compliance with relevant laws and regulations and the AOA except for the service contract entered into by Mr. LI Caiyun, an executive Director, with the Company on 19 October 2021, each of the executive Directors of the Company has entered into a service contract with the Company on 7 August 2020; except for the letter of appointment entered into by Mr. SONG Chang, a non-executive Director, with the Company on 30 June 2021 and the letter of appointment entered into with Mr. JIANG Jianwu, a non-executive Director, with the Company on 28 December 2021, each of the non-executive Directors and the independent non-executive Directors has entered into a letter of appointment with the Company on 7 August 2020; and except for the service contract entered into by Ms. CHEN Jing, a supervisor, with the Company on 30 June 2021 and the letter of appointment entered into with Mr. KONG Defang, a supervisor, with the Company on 26 January 2022, each of the supervisors of the Company has entered into a service contract with the Company on 7 August 2020. Each service contract/letter of appointment is valid from the date of signing until 6 August 2023, with a one-year automatic renewal clause.

Save as disclosed above, none of the Directors or the Supervisors has entered into a service contract with the Company which is not determinable by the Company within one year without payment of compensation, other than statutory compensation.

### PERMITTED INDEMNITY PROVISIONS

Pursuant to the AOA, every Director, Supervisor and senior management of the Company shall be entitled to be indemnified out of the assets of the Company against all losses or liabilities which he/she may sustain or incur in relation to the execution of the duties of his/her office or otherwise in relation thereto. Besides, the Company has arranged appropriate insurance for Directors, Supervisors and senior management in respect of possible legal actions.

### DIRECTORS' AND SUPERVISORS' REMUNERATION

Details of the remuneration of the Directors and Supervisors of the Company are set out in Note 12 to the Financial Statements.

Details of the remuneration of five individuals with highest emoluments of the Company are set out in Note 13 to the Financial Statements.

### 董事、監事和高級管理人員簡歷

董事、監事和高級管理人員的簡歷詳情載於本報告的「董事、監事及高級管理人員」一節。

### 董事及監事的服務合約

根據相關法律法規及公司章程，除執行董事李彩雲先生於2021年10月19日與本公司訂立的服務協議外，本公司各執行董事已於2020年8月7日與本公司訂立董事服務協議；及除非執行董事宋暢先生於2021年6月30日與本公司訂立委任函及非執行董事江建武於2021年12月28日與本公司訂立委任函外，本公司各非執行董事及獨立非執行董事已於2020年8月7日與本公司訂立委任函；及除監事陳靜女士於2021年6月30日與本公司訂立的監事服務協議及監事孔德方先生於2022年1月26日與本公司訂立的監事服務協議外，本公司各名監事已於2020年8月7日與本公司訂立服務協議。服務協議／委任函各自有效期自簽署日期起至2023年8月6日，並包含自動延期一年的條款。

除上文所披露者外，概無董事或監事與本公司訂立本公司不可於一年內不付賠償(法定賠償除外)而終止的服務合約。

### 獲准許的彌償條文

根據《公司章程》，本公司每名董事、監事及高級管理人員在其執行職責或在其他方面與此有關之情況下可能蒙受或產生之所有損失或責任，有權獲得從本公司之資產中撥付彌償。此外，本公司已就其可能面對之有關法律制裁安排適當的董事、監事及高級管理人員保險。

### 董事及監事的酬金

本公司董事及監事酬金的詳情載於財務報表附註12。

本公司的五位最高薪酬人士的薪酬詳情載於財務報表附註13。

## REPORT OF THE BOARD OF DIRECTORS (CONTINUED)

### 董事會報告(續)

#### PENSION SCHEMES

Details of pension schemes of the Company are set out in Note 10(a) to the Financial Statements.

#### 退休金計劃

本公司退休金計劃的詳情載於財務報表附註10(a)。

#### INTERESTS OF DIRECTORS AND SUPERVISORS IN CONTRACTS, TRANSACTIONS OR ARRANGEMENTS

At any time during the year of 2021, there was no contract of significance, transaction or arrangement related to the Group's business in which the Company and its subsidiaries was a party, and in which a Director or Supervisor or an entity connected with a Director or a Supervisor had a material interest, either directly or indirectly, which subsisted during the year or at the end of the year.

#### 董事及監事於合約、交易或安排的權益

於2021年度內的任何時間，本公司及其附屬公司概無直接或間接參與訂立與董事或監事或其有關連的實體有重大利益關係、與本集團業務有關、且於本年度內或結束時仍然有效的重要合約、交易或安排。

#### INTERESTS OF DIRECTORS IN COMPETING BUSINESS

During the year of 2021, save as disclosed below, none of the Directors and their associates had any competing interests in any business which competed, or was likely to compete, either directly or indirectly, with the business of the Group:

#### 董事於競爭業務的權益

於2021年度內，除下文所披露者外，概無董事及其聯繫人於任何與本集團業務直接或間接構成競爭或可能構成競爭的業務中擁有任何競爭權益：

Name of Director 董事姓名	Position in the Company 本公司職位	Other Equity 其他權益
Mr. SONG Chang 宋暢先生	Non-executive Director 非執行董事	Director of the Corporate Management and Legal Affairs Department (Reform Office) of China Energy 國家能源集團企業管理與法律事務部(改革辦公室)主任
Mr. WANG Zhongqu <sup>(1)</sup> 王忠渠先生 <sup>(1)</sup>	Non-executive Director 非執行董事	Chief Production Security Officer of China Energy 國家能源集團安全生產總監
Mr. JIANG Jianwu 江建武先生	Non-executive Director 非執行董事	Director of the Safety and Environmental Supervision Department of China Energy 國家能源集團安全環保監察部主任
Mr. ZHANG Wenjian 張文建先生	Non-executive Director 非執行董事	First-level Business Director of the Science and Technology Department of China Energy 國家能源集團科技部一級業務總監
Mr. GU Yuchun 顧玉春先生	Non-executive Director 非執行董事	First-level Business Director of Guodian Power 國電電力一級業務總監

Note: (1) Due to his retirement, Mr. Wang Zhongqu resigned as a non-executive Director and a member of the remuneration and appraisal committee of the Company with effect from 20 October 2021. For details, see the announcement of the Company dated 20 October 2021.

附註：(1) 因達到退休年齡，自2021年10月20日起，王忠渠先生不再擔任本公司非執行董事及薪酬與考核委員會成員職務。有關詳情，請參閱本公司日期為2021年10月20日的公告。

## REPORT OF THE BOARD OF DIRECTORS (CONTINUED) 董事會報告(續)

### INTERESTS AND SHORT POSITIONS OF THE DIRECTORS, SUPERVISORS AND SENIOR MANAGEMENT IN THE SHARES, UNDERLYING SHARES AND DEBENTURES

As of 31 December 2021, none of the Directors, Supervisors and senior management of the Company had any interests or short positions in the shares, underlying shares and debentures of the Company or any of its associated corporations (within the meaning of Part XV of the Securities and Futures Ordinance (“SFO”)) which would have to be notified to the Company and the Stock Exchange pursuant to Divisions 7 and 8 of Part XV of the SFO (including interests or short positions which they were taken or deemed to have under such provisions of the SFO) or which were required, pursuant to Section 352 of the SFO, to be registered in the register referred to therein, or which would fall to be disclosed to the Company and the Stock Exchange pursuant to the Model Code for Securities Transactions by Directors of Listed Issuers.

### EQUITY-LINKED AGREEMENTS

No equity-linked agreements that will or may result in the Company issuing shares or that require the Company to enter into any agreements that will or may result in the Company issuing shares were entered into by the Company during the year or subsisted at the end of the year.

### 董事、監事及高級管理人員於股份、相關股份及債權證的權益及淡倉

於2021年12月31日，本公司各董事、監事及高級管理人員概無在本公司或其任何相聯法團(定義見《證券及期貨條例》(「《證券及期貨條例》」)第XV部的股份、相關股份或債權證中擁有任何根據《證券及期貨條例》第XV部第7及8分部須知會本公司及聯交所的權益或淡倉(包括根據《證券及期貨條例》的該等條文被當作或視為擁有的權益或淡倉)，或根據《證券及期貨條例》第352條須登記於該條所指登記冊的權益或淡倉，或根據《上市發行人董事進行證券交易的標準守則》須知會本公司及聯交所的權益或淡倉。

### 股票掛鈎協議

於年內或年度結束時，本公司概無訂立或存在任何股票掛鈎協議將會或可導致本公司發行股份，或要求本公司訂立任何協議將會或可導致本公司發行股份。



# REPORT OF THE BOARD OF DIRECTORS (CONTINUED)

## 董事會報告(續)

### SUBSTANTIAL SHAREHOLDERS' INTERESTS IN SHARES

As at 31 December 2021, to the knowledge of the Directors, the persons below have interests or short positions in the shares or underlying shares of the Company which are required to be disclosed to the Company and the Stock Exchange pursuant to Divisions 2 and 3 of Part XV of the SFO, and which are required, pursuant to Section 336 of the SFO, to be recorded in the register referred to therein, as well as persons (other than the Directors, Supervisors or chief executive of the Company), or corporations deemed, directly and/or indirectly, to be interested in 5% or more of the nominal value of any class of share capital carrying rights to vote in all circumstances at our general meetings (the table has been updated according to the records of CCASS and the shareholder identification report):

### 主要股東於股份之權益

於2021年12月31日，就董事所知，下列人士於本公司股份或相關股份中擁有根據《證券及期貨條例》第XV部第2及3分部須向本公司及聯交所披露之權益或淡倉，及根據證券及期貨條例第336條須記入所述登記冊內之權益或淡倉，及被直接及／或間接視作於附有權利可於任何情況下在本公司股東大會投票之任何類別股本之面值中擁有5%或以上之權益之人士(本公司董事、監事或最高行政人員除外)(該表已根據中央結算系統持股紀錄及股東身份識別報告更新)：

Shareholder Name	Share Category	Status	Number of Shares/ Underlying Shares Held	Percentage in the Relevant Class of Share Capital <sup>(1)</sup>	Percentage in the Total Share Capital <sup>(1)</sup>
股東姓名/名稱	股份類別	身份	持有股份/ 相關股份數目 (shares) (股)	佔有關股本類別 之百分比 <sup>(1)</sup> %	佔股本總數 之百分比 <sup>(1)</sup> %
China Energy	Domestic shares	Interests of beneficial owner and controlled corporation	4,754,000,000 <sup>(2)</sup> (Long position)	100.00	78.40
國家能源集團	內資股	實益擁有人及受控公司之權益	(好倉)		
Guodian Power Development Co., Ltd.	Domestic shares	Interests of beneficial owner	2,376,500,000 <sup>(2)</sup> (Long position)	49.99	39.19
國電電力發展股份有限公司	內資股	實益擁有人之權益	(好倉)		
Mr. YAN Andrew Y.	H shares	Interests of controlled corporation	288,200,000 <sup>(3)</sup> (Long position)	22.00	4.75
閻焱先生	H股	受控公司之權益(好倉)			
SAIF IV GP Capital Ltd.	H shares	Interests of controlled corporation	288,200,000 <sup>(3)</sup> (Long position)	22.00	4.75
	H股	受控公司之權益股	(好倉)		
SAIF IV GP, L.P.	H shares	Interests of controlled corporation	288,200,000 <sup>(3)</sup> (Long position)	22.00	4.75
	H股	受控公司之權益股	(好倉)		
SAIF Partners IV L.P.	H shares	Interests of beneficial owner	288,200,000 <sup>(3)</sup> (Long position)	22.00	4.75
	H股	實益擁有人之權益股	(好倉)		

## REPORT OF THE BOARD OF DIRECTORS (CONTINUED)

### 董事會報告(續)

#### Notes:

- (1) This percentage is calculated on the basis of the number of underlying shares/total shares that had been issued by the Company as at 31 December 2021. As at 31 December 2021, the total number of shares of the Company is 6,063,770,000, of which 4,754,000,000 shares are domestic shares and 1,309,770,000 shares are H shares.
- (2) As at 31 December 2021, China Energy directly held 2,377,500,000 domestic shares of the Company, accounting for 39.21% of the total issued share capital of the Company, and through its affiliate, Guodian Power Development Co., Ltd., it held 2,376,500,000 domestic shares of the Company, accounting for 39.19% of the total issued share capital of the Company. China Energy holds a total of 4,754,000,000 domestic shares of the Company, accounting for about 78.40% of the total issued share capital of the Company, and therefore China Energy is the controlling shareholder of the Company.
- (3) Mr. YAN Andrew Y. indirectly held 22.00% interest in the H shares of the Company via SAIF Partners IV L. P. through SAIF IV GP Capital Ltd. and SAIF IV GP, L.P.. Mr. YAN Andrew Y. is the controlling shareholder of SAIF IV GP Capital Ltd., SAIF IV GP LP, and SAIF Partners IV L. P.. SAIF IV GP Capital Ltd. is the controlling shareholder of SAIF IV GP, L.P., which is the controlling shareholder of SAIF Partners IV L.P.. SAIF Partners IV L.P. held 22.00% interest in the H shares of the Company. Therefore, Mr. YAN Andrew Y., SAIF IV GP Capital Ltd. and SAIF IV GP, L.P. are deemed to be interested in the H shares of the Company held by SAIF Partners IV L.P..

#### 附註：

- (1) 該百分比是以本公司於2021年12月31日已發行的相關股份數目／總股份數目計算。於2021年12月31日，本公司之股份總數為6,063,770,000，其中4,754,000,000股為內資股，1,309,770,000股為H股。
- (2) 截至2021年12月31日止，國家能源集團直接持有本公司2,377,500,000股內資股，約佔本公司已發行總股本的39.21%，並通過其附屬公司國電電力發展股份有限公司持有本公司2,376,500,000股內資股，約佔本公司已發行總股本的39.19%。國家能源集團合計持有本公司4,754,000,000股內資股，約佔本公司已發行總股本的78.40%，為本公司控股股東。
- (3) 閻焱先生透過SAIF IV GP Capital Ltd.及SAIF IV GP LP經SAIF Partners IV L.P.間接持有本公司22.00%的H股。閻焱先生是SAIF IV GP Capital Ltd.、SAIF IV GP LP以及SAIF Partners IV L.P.的控股股東。SAIF IV GP Capital Ltd.是SAIF IV GP LP的控股股東。SAIF IV GP LP是SAIF Partners IV L.P.的控股股東。SAIF Partners IV L.P.擁有本公司22.00%的H股。因此，閻焱先生、SAIF IV GP Capital Ltd.以及SAIF IV GP LP被視作為擁有SAIF Partners IV L.P.所持有本公司H股的權益。

## MANAGEMENT CONTRACTS

The Company did not enter into any contract in respect of the management or administration of the entire or any significant part of the business of the Company nor did such contract subsist at any time during 2021.

## CONNECTED TRANSACTIONS

The Company has entered into certain contracts with its connected persons (as defined under Chapter 14A of the Listing Rules). These transactions were monitored and managed by the Company in accordance with the Listing Rules.

The details of the non-exempt connected transactions of the Group during 2021 are as follows (unless otherwise defined, capitalized terms used herein shall have the same meanings as those defined in the relevant announcements as mentioned below):

## 管理合約

2021年度內本公司並未於任何時間就有關本公司全部或任何重大部份業務的管理或行政工作訂立或存在任何合約。

## 關連交易

本公司已與其關連人士(定義見上市規則第14A章)訂立若干合約。此等交易乃由本公司根據上市規則監督和管理。

下列為本集團於2021年度內的未獲豁免關連交易(除非另有定義，本報告所用之詞彙與如下公告所界定者具相同含義)：

# REPORT OF THE BOARD OF DIRECTORS (CONTINUED)

## 董事會報告(續)

### (1) Non-exempt One-off Connected Transaction

The details of six non-exempt one-off connected transactions in 2021 are as follows:

#### 1. DISPOSAL OF 5% EQUITY INTEREST IN GUODIAN INSURANCE BROKER

The Group entered into an Equity Transfer Agreement with China Energy Capital Holdings Co., Ltd. ("**Capital Holdings Company**") on 22 January 2021 (after trading hours), pursuant to which the Company agreed to dispose and the Capital Holdings Company agreed to acquire a 5% equity interest of Guodian Insurance Brokers (Beijing) Co., Ltd. ("**Guodian Insurance Brokers**") at a consideration of RMB46,923,140.79. Upon completion of the disposal, the Company no longer hold any equity in Guodian Insurance Brokers.

China Energy holds, directly or indirectly, approximately 78.40% of the issued share capital of the Company and is the controlling shareholder of the Company. Since Capital Holdings Company is a wholly-owned subsidiary of China Energy, Capital Holding Company is a connected person of the Company, and the Equity Transfer Agreement and the proposed transaction thereunder constitute a connected transaction of the Company.

As the maximum applicable percentage of the transaction amount under the Equity Transfer Agreement exceeds 0.1% but is less than 5%, the Equity Transfer Agreement and the proposed transaction thereunder must comply with the requirements of reporting and announcement under Chapter 14A of the Listing Rules, but are exempted from the approval of independent shareholders.

The proposal has been formally approved by the Board of Directors of the Company. For details, please refer to the announcement of the Company dated 22 January 2021.

### (1) 不獲豁免一次性關連交易

本集團於2021年度發生的六項不獲豁免一次性關連交易詳情如下：

#### 1. 出售國電保險經紀5%股權

本集團於2021年1月22日(交易時間結束後)與國家能源集團資本控股有限公司(「**資本控股公司**」)訂立股權轉讓協議，據此，本公司同意出售，而資本控股公司同意收購國電保險經紀(北京)有限公司(「**國電保險經紀**」)5%股權，代價為人民幣46,923,140.79元。於本次出售完成後，本公司不再持有國電保險經紀的任何股權。

國家能源集團直接或間接持有本公司約78.40%已發行股本，為本公司的控股股東。鑒於資本控股公司是國家能源集團的全資附屬公司，因此資本控股公司為本公司的關連人士，股權轉讓協議及其項下擬進行的交易構成本公司的關連交易。

由於股權轉讓協議項下的交易金額的最高適用百分比高於0.1%但低於5%，股權轉讓協議及其項下擬進行的交易須遵守上市規則第14A章下申報及公告的規定，惟豁免遵守獨立股東批准的規定。

該議案已獲本公司董事會正式通過。有關詳情請見本公司日期為2021年1月22日之公告。

## REPORT OF THE BOARD OF DIRECTORS (CONTINUED) 董事會報告(續)

### 2. FORMATION OF A JOINT VENTURE COMPANY—CHINA ENERGY XINJIANG GANQUANPU INTEGRATED ENERGY CO., LTD.

On 18 March 2021 (after trading hours), China Energy Xinjiang Energy Co., Ltd. (“Xinjiang Energy”), Xinjiang Derun Economic Construction and Development Co., Ltd., State Grid Xinjiang Electric Power Co., Ltd., Longyuan Environmental (a wholly-owned subsidiary of the Company), and TBEA Xinjiang New Energy Co., Ltd. entered into a joint venture agreement to jointly establish a joint venture. According to the joint venture agreement, the registered capital of the joint venture is RMB200,010,000. Longyuan Environmental will contribute RMB30,001,500 in cash to the joint venture, accounting for 15% of the total registered capital of the joint venture.

As at the date of the agreement, China Energy holds, directly or indirectly, approximately 78.40% of the issued share capital of the Company and is the controlling shareholder of the Company. As Xinjiang Energy is a wholly-owned subsidiary of China Energy, Xinjiang Energy is a connected person of the Company as defined in Chapter 14A of the Listing Rules. Accordingly, the joint venture agreement and the proposed transaction thereunder constitute a connected transaction of the Company.

Since the maximum applicable percentage rate of the Group's capital contribution to the joint venture under the joint venture agreement exceeds 0.1% but is less than 5%, the joint venture agreement must comply with the reporting and announcement requirements of Chapter 14A of the Listing Rules, but are exempted from the requirements of the circular (including independent financial advice) and the approval of independent shareholders.

The proposal has been formally approved by the Board of Directors of the Company. For details, please refer to the announcement of the Company dated 18 March 2021.

### 2. 成立合營公司國能新疆甘泉堡綜合能源有限公司

於2021年3月18日(交易時段後)，國家能源集團新疆能源有限責任公司(「新疆能源」、新疆德潤經濟建設發展有限公司、國網新疆電力有限公司、龍源環保(本公司之全資附屬公司)及特變電工新疆新能源股份有限公司訂立合營協議，將共同成立一家合營公司。根據合營協議，合營公司的註冊資本為人民幣200,010,000元。龍源環保將以現金形式向合營公司出資人民幣30,001,500元，佔合營公司註冊資本總額的15%。

於該協議日期，國家能源集團直接或間接持有本公司約78.40%已發行股本，為本公司的控股股東。由於新疆能源為國家能源集團的全資附屬公司，新疆能源為上市規則第14A章定義下本公司的關連人士。因此，合營協議及其項下擬進行之交易構成本公司的關連交易。

由於有關本集團根據合營協議向合營公司出資的最高適用百分比率超過0.1%但低於5%，合營協議須遵守上市規則第14A章的申報及公告的規定，但豁免遵守通函(包括獨立財務建議)及獨立股東批准的規定。

該議案已獲本公司董事會正式通過。有關詳情請見本公司日期為2021年3月18日之公告。

## REPORT OF THE BOARD OF DIRECTORS (CONTINUED)

### 董事會報告(續)

### 3. THE DISPOSAL OF 70% OF THE EQUITY INTEREST IN A SUBSIDIARY THROUGH PUBLIC TENDER

On 19 April 2021, Lucency, a wholly-owned subsidiary of the Company, entered into a transaction contract with Goldwind EP. pursuant to which Lucency agreed to dispose, and Goldwind EP agreed to acquire 70% equity interest of Guodian Galaxy Water Co., Ltd. (“**Guodian Galaxy Water**”) at a consideration of RMB514,983,000.

As the date of the agreement, Guodian Galaxy Water was 70% and 30% owned by Lucency and Qingdao Galaxy Investment Co., Ltd. (“**Galaxy Investment**”), respectively. Guodian Galaxy Water was a major subsidiary of the Company, and Galaxy Investment held 30% equity interest in Guodian Galaxy Water. Therefore, they we connected persons of the Company at the subsidiary level as defined in Chapter 14A of the Listing Rules. Since Galaxy Investment intended to dispose its 30% equity interest in Guodian Galaxy Water together with Lucency, the disposal constituted a connected transaction of the Company.

According to Rule 14A.101 of the Listing Rules, the Disposal is subject to the reporting and announcement requirements, but exempt from the circular, independent financial advice and shareholder’s approval requirements under Chapter 14A of the Listing Rules.

However, pursuant to Chapter 14 of the Listing Rules, since the maximum applicable percentage rate for the disposal exceeds 25% but is less than 75%, the disposal constitutes a major transaction of the Company and must comply with the requirements of reporting, announcement, and circular under Chapter 14A of the Listing Rules, and the approval of shareholders.

According to article 14.44 of the Listing Rules, if (i) a general meeting is held to approve the disposal, no Shareholder is required to abstain from voting; and (ii) the Shareholders have obtained the approval of a Shareholder or a group of closely related Shareholders (who collectively hold more than 50% of the voting rights at the general meeting to approve the disposal), and Shareholders’ approval of the disposal may be obtained in writing instead of holding a general meeting. After making all reasonable enquiries, to the best of the knowledge, information and belief of the Directors, no Shareholder had a significant interest in the disposal. Therefore, if the disposal is submitted to the Shareholders for approval at the general meeting, no Shareholder is required to abstain from voting. As the China Energy and Guodian Power jointly hold about 78.40% of the issued share capital of the Company, they have approved the disposal by way of written approval. Therefore, the Company did not hold a general meeting on the approval of the disposal.

The proposal has been approved by the Board of Directors and a closely allied group of Shareholders together holding more than 50% of the voting rights at a general meeting. For details, please refer to the announcement of the Company dated 20 April 2021 and circular dated 26 May 2021.

### 3. 出售國電銀河水務70%股本權益

於2021年4月19日，本公司全資附屬公司朗新明與金風環保訂立交易合同，據此，朗新明同意出售，而金風環保同意收購國電銀河水務股份有限公司(「**國電銀河水務**」)70%股本權益，代價為人民幣514,983,000元。

於該協議日期，國電銀河水務由朗新明及青島銀河投資有限公司(「**銀河投資**」)分別擁有70%股權及30%股權。國電銀河水務是本公司的一家重大附屬公司，而銀河投資持有國電銀河水務30%的股本權益，故為上市規則第14A章項下所界定的本公司於附屬公司層面的關連人士。鑒於銀河投資擬與朗新明一併出售其持有的國電銀河水務之30%股本權益，出售事項構成本公司之關連交易。

根據上市規則第14A.101條，須遵守申報及公告規定，惟可豁免遵守上市規則第14A章項下有關通函、獨立財務意見及股東批准的規定。

然而，根據上市規則第14章，由於出售事項的最高適用百分比率高於25%但低於75%，出售事項構成本公司的主要交易及須遵守上市規則第14章項下的申報、公告、通函及股東批准的規定。

根據上市規則第14.44條，倘(i)召開股東大會批准出售事項，概無股東須放棄投票；及(ii)股東已取得一名股東或一批有密切聯繫(彼等就批准出售事項該股東大會上合共持有50%以上投票權)之股東批准，出售事項之股東批准可以書面方式取得股東批准，以取代舉行股東大會。董事經作出一切合理查詢後所深知、盡悉及確信，概無股東於出售事項中擁有重大權益，故倘出售事項於股東大會上呈股東批准，概無股東須放棄投票。由於國家能源集團及國電電力合共持有本公司約78.40%已發行股本，彼等已透過書面方式批准出售事項。因此，本公司沒有就批准出售事項召開股東大會。

該議案已獲董事會及一批有密切聯繫的在股東大會上合共持有50%以上投票權的股東批准。有關詳情請見本公司日期為2021年4月20日之公告及2021年5月26日之通函。

## REPORT OF THE BOARD OF DIRECTORS (CONTINUED)

### 董事會報告(續)

#### 4. THE EQUITY TRANSFER AND THE CAPITAL INJECTION IN UNITED POWER AND THE ENTERING INTO OF THE SUPPLEMENTAL AGREEMENT TO THE NON-COMPETITION AGREEMENT

On 16 June 2021 (after trading hours), the Company, China Energy, Longyuan Power and United Power entered into an equity transfer and capital injection agreement. According to the agreement, the Company conditionally agreed to dispose of 40% equity interest in United Power, which was owned as to 70% by the Company and 30% by Longyuan Power as of 16 June 2021 by way of (i) equity transfer; and (ii) capital injection.

Upon completion of the transaction, the registered capital of United Power would be held by China Energy, the Company and Longyuan Power for 40%, 30% and 30%, respectively. Therefore, United Power would no longer be a subsidiary of the Company, and its financial performance will no longer be incorporated into the Financial Statement of the Group.

The Company entered into a supplementary agreement with China Energy to amend the Non-Competition Agreement, which (a) must be approved by the Board of Directors; (b) approved by the Board of Directors of China Energy; and (c) approved by the Stock Exchange (if required); (d) independent shareholders pass relevant resolutions at the extraordinary general meeting; and (e) the equity transfer and capital injection agreement became effective from the date when the conditions become unconditional (except that the conditions relating to the Supplemental Agreement have become unconditional). The completion and effectiveness of the equity transfer and capital injection agreement and the supplementary agreement are mutually conditional.

The equity transfer involves the Company's disposal of the equity interest in United Power, which constitutes an asset disposal transaction under Article 14.04(1)(a) of the Listing Rules. In addition, since the capital injection will result in the dilution of the Company's equity interest in United Power, the capital injection constitutes a deemed disposal by the Company pursuant to Article 14.29 of the Listing Rules. Since one or more of the applicable percentage rates (as defined in the Listing Rules) of the disposal exceeds 75%, the disposal constitutes a very significant disposal of the Company according to Chapter 14 of the Listing Rules. Therefore, the reporting, announcement, circular and shareholder approval requirements under Chapter 14 of the Listing Rules must be observed.

#### 4. 聯合動力股權轉讓及注資及訂立避免同業競爭協議補充協議

於2021年6月16日(交易時段後)，本公司、國家能源集團、龍源電力及聯合動力訂立股權轉讓及注資協議，根據該協議，本公司有條件同意通過(i)股權轉讓；及(ii)注資的方式出售聯合動力40%的股權，其中，於2021年6月16日，本公司持有其70%股權，龍源電力持有其30%股權。

完成後，聯合動力的註冊資本將由國家能源集團、本公司及龍源電力分別持有40%、30%及30%。因此，聯合動力將不再為本公司附屬公司，其財務業績將不再併入本集團財務報表。

本公司與國家能源集團訂立補充協議，對避免同業競爭協議進行修訂，須(a)獲董事會批准；(b)獲國家能源集團董事會批准；(c)獲聯交所(倘需要)批准；(d)獨立股東於臨時股東大會上通過相關決議案；及(e)股權轉讓及注資協議已成為無條件(除與補充協議已成為無條件有關的條件外)之日起生效。股權轉讓注資協議及補充協議的完成及生效彼此屬互為條件。

股權轉讓涉及本公司出售聯合動力的股權，構成上市規則第14.04(1)(a)條項下出售資產的交易。此外，由於注資將導致本公司於聯合動力的股權獲攤薄，根據上市規則第14.29條規定，注資構成本公司視作出售事項。由於有關出售事項的其中一項或多項適用百分比率(定義見上市規則)超過75%，故根據上市規則第14章，該出售事項構成本公司的非常重大出售事項，故須遵守上市規則第14章項下的申報、公告、通函及股東批准規定。

## REPORT OF THE BOARD OF DIRECTORS (CONTINUED) 董事會報告(續)

As at the date of the agreement, China Energy was the controlling shareholder of the Company, directly or indirectly holding approximately 78.40% of the issued share capital of the Company. In addition, as at the date of the agreement, China Energy was the controlling shareholder of Longyuan Power, directly or indirectly holding approximately 58.44% of the issued share capital of Longyuan Power. Therefore, both China Energy and Longyuan Power were connected persons of the Company under Chapter 14A of the Listing Rules, and the disposal and the conclusion of supplementary agreements (not conducted in the daily and general business process of the Company) constituted the connected transactions of the Company under Chapter 14A of the Listing Rules, which must comply with the reporting, announcement and independent shareholder approval requirements under Chapter 14A of the Listing Rules.

The proposal has been formally approved by the Board of Directors and the general meeting of the Company. For details, please refer to the announcements of the Company dated 16 June 2021 and 16 July 2021 and the circular dated 30 June 2021.

### 5. TWO CAPITAL INJECTION INTO WANGKUI NEW ENERGY

On 5 July 2021 (after trading hours), the Company, Longyuan Technology and Guoneng Technology & Environment Wangkui New Energy Co., Ltd. (“Wangkui New Energy”) entered into a capital injection agreement. Pursuant to which, the Company and Longyuan Technology agreed to inject RMB39,950,000 and RMB43,050,000 into Wangkui New Energy as new share capital respectively. Immediately after the capital injection, the registered capital of Wangkui New Energy increases from RMB40,000,000 to RMB123,000,000, and the equity of the Company and Longyuan Technology in Wangkui New Energy is 65% and 35% respectively. Immediately after the capital injection, Wangkui New Energy remains a subsidiary of the Company.

On 11 August 2021, the Company, Longyuan Technology and Wangkui New Energy entered into a second capital injection agreement. Pursuant to which, the Company and Longyuan Technology agreed to inject capital of RMB56,550,000 and RMB30,450,000 to Wangkui New Energy respectively in proportion to their respective shareholdings in Wangkui New Energy. Immediately after the second capital injection, the registered capital of Wangkui New Energy increases from RMB123,000,000 to RMB210,000,000, and the equity of the Company and Longyuan Technology in Wangkui New Energy continues to be 65% and 35%, respectively. Immediately after the second capital injection, Wangkui New Energy remains a subsidiary of the Company.

於該協議日期，國家能源集團為本公司控股股東，直接或間接持有本公司已發行股本約78.40%。此外，於該協議日期，國家能源集團為龍源電力控股股東，直接或間接持有龍源電力已發行股本約58.44%。因此，國家能源集團及龍源電力均為本公司根據上市規則第14A章項下的關連人士，且出售事項及訂立補充協議(未於本公司日常及一般業務過程中進行)構成上市規則第14A章項下本公司的關連交易，須遵守上市規則第14A章項下的申報、公告及獨立股東批准規定。

該議案已獲本公司董事會及股東大會正式通過。有關詳情請見本公司日期為2021年6月16日及2021年7月16日之公告及2021年6月30日之通函。

### 5. 為望奎新能源兩次注資

於2021年7月5日(交易時段後)，本公司、龍源技術及國能科環望奎新能源有限公司(「望奎新能源」)訂立注資協議，據此，本公司及龍源技術同意分別向望奎新能源注資人民幣39,950,000元及人民幣43,050,000元作為新股本。緊隨注資完成後，望奎新能源的註冊資本將由人民幣40,000,000元增加至人民幣123,000,000元，望奎新能源將由本公司及龍源技術分別擁有65%及35%的股權。緊隨完成注資後，望奎新能源仍為本公司附屬公司。

於2021年8月11日，本公司、龍源技術及望奎新能源訂立二次注資協議，據此，本公司及龍源技術同意按其各自於望奎新能源的持股比例分別向望奎新能源新增資本人民幣56,550,000元及人民幣30,450,000元。緊隨二次注資完成後，望奎新能源的註冊資本將由人民幣123,000,000元增加至人民幣210,000,000元，望奎新能源將繼續由本公司及龍源技術分別擁有65%及35%的股權。緊隨完成二次注資後，望奎新能源仍為本公司附屬公司。

## REPORT OF THE BOARD OF DIRECTORS (CONTINUED)

### 董事會報告(續)

As at the date of the agreement, China Energy was the controlling shareholder of the Company, directly or indirectly holding approximately 78.40% of the issued share capital of the Company, and the Company held approximately 22.83% of the issued share capital of Longyuan Technology. In addition, as at the date of the agreement, Xiongya (Virgin) Co., Ltd., a wholly-owned subsidiary of Longyuan Power, owned approximately 18.75% of the equity interest in Longyuan Technology. Whereas Longyuan Power was a subsidiary of China Energy and Longyuan Technology was a connected person of the Company, both capital injections constituted connected transactions of the Company according to Chapter 14A of the Listing Rules. Since the two capital injections are completed within 12 months, the total amount of the two capital injections shall be aggregated according to Article 14.22 of the Listing Rules.

Since the maximum applicable percentage rate of the Company after the joint calculation of the two capital injections exceeds 0.1% but is less than 5%, the two capital injections of the Company must comply with the reporting and announcement requirements of Chapter 14A of the Listing Rules, but are exempted from the requirements of the circular (including independent financial advice) and the approval of independent shareholders.

Both capital injections have been officially approved by the Board of Directors of the Company. For details, please refer to the announcements of the Company dated 5 July 2021 and 11 August 2021.

#### 6. **FORMATION of A JOINT VENTURE COMPANY-SUXITONG SCIENCE AND TECHNOLOGY INDUSTRIAL PARK COMPREHENSIVE ENERGY DEVELOPMENT CO., LTD.**

On 29 October 2021 (after trading hours), Longyuan Environmental, a non-wholly-owned subsidiary of the Company, entered into an investment agreement with Nantong Sutong Science and Technology Industrial Park Holding Development Co., Ltd., Nantong Tianshenggang Power Generation Co., Ltd. ("Tiandian") and Shanghai Lanjian Electric Equipment (Nantong) Co., Ltd. to jointly establish a joint venture. According to the investment agreement, the registered capital of the joint venture company is RMB100 million. Longyuan Environmental will contribute RMB8 million to the joint venture company in cash, accounting for 8% of the total registered capital of the joint venture company.

於該協議日期，國家能源集團為本公司的控股股東，直接或間接持有本公司約78.40%已發行股本，而本公司持有龍源技術約22.83%的已發行股本。此外，於該協議日期，龍源電力之全資附屬公司雄亞(維爾京)有限公司擁有龍源技術約18.75%的股權。鑒於龍源電力為國家能源集團的附屬公司，龍源技術為本公司的關連人士。因此，根據上市規則第14A章，兩次注資均構成本公司的關連交易。由於兩次注資在12個月內完成，兩次注資總金額須根據上市規則第14.22條合併計算。

由於本公司於兩次注資合併計算後的最高適用百分比率超過0.1%但低於5%，本公司兩次注資須遵守上市規則第14A章的申報及公告的規定，但豁免遵守通函(包括獨立財務建議)及獨立股東批准的規定。

兩次注資均已獲本公司董事會正式通過。有關詳情請見本公司日期為2021年7月5日及2021年8月11日之公告。

#### 6. **成立合營公司蘇錫通科技產業園綜合能源開發有限責任公司**

於2021年10月29日(交易時段後)，本公司非全資附屬公司龍源環保與南通蘇錫通科技產業園控股發展有限公司、南通天生港發電有限公司(「天電公司」)及上海藍箭電控設備南通有限公司訂立了投資協議，將共同成立一家合營公司。根據投資協議，合營公司的註冊資本為人民幣10,000萬元。龍源環保將以現金形式向合營公司出資人民幣800萬元，佔合營公司註冊資本總額的8%。



## REPORT OF THE BOARD OF DIRECTORS (CONTINUED)

### 董事會報告(續)

As at the date of the agreement, China Energy holds, directly or indirectly, approximately 78.40% of the issued share capital of the Company and is the controlling shareholder of the Company. China Energy and its subsidiaries are connected persons of the Company as defined in Chapter 14A of the Listing Rules. The transactions between the Group and China Energy as well as its subsidiaries constitute connected transactions of the Company under the Listing Rules. China Energy directly or indirectly holds approximately 58.44% of the issued share capital of Longyuan Power, and Longyuan Power directly or indirectly holds 31.94% of the equity interest in Tiandian, so Tiandian is a connected person of the Company. According to Chapter 14A of the Listing Rules, the investment agreement and the transactions to be carried out under it constitute connected transactions of the Company.

Since the maximum applicable percentage rate of the Group's capital contribution to the joint venture under the investment agreement exceeds 0.1% but is less than 5%, the investment agreement must comply with the reporting and announcement requirements of Chapter 14A of the Listing Rules, but are exempted from the requirements of the circular (including independent financial advice) and the approval of independent shareholders.

The proposal has been formally approved by the Board of Directors of the Company. For details, please refer to the announcement of the Company dated 29 October 2021.

#### (2) Non-exempt Continuing Connected Transaction

The Group entered into certain non-exempt continuing connected transactions in 2021.

For the continuing connected transactions of items 1-4 and items 8-9, the Company has obtained approval from the Shareholders on the annual caps for the year 2021. For the continuing connected transactions of items 5-7 and items 10-11, the Company has obtained approval from the Board of Directors and has published announcements on the annual caps for the year 2021.

於該協議日期，國家能源集團直接或間接持有本公司約78.40%已發行股本，為本公司的控股股東。國家能源集團及其附屬公司為上市規則第14A章定義下本公司的關連人士。本集團與國家能源集團及其附屬公司之間的交易構成本公司於上市規則項下的關連交易。國家能源集團直接或間接持有約58.44%龍源電力已發行股本，而龍源電力直接或間接持有天電公司31.94%股權，因此天電公司為本公司關連人士。根據上市規則第14A章，投資協議及其項下擬進行之交易構成本公司的關連交易。

由於有關本集團根據投資協議向合營公司出資的最高適用百分比率超過0.1%但低於5%，投資協議須遵守上市規則第14A章的申報及公告的規定，但豁免遵守通函(包括獨立財務建議)及獨立股東批准的規定。

該議案已獲本公司董事會正式通過。有關詳情請見本公司日期為2021年10月29日之公告。

#### (2) 不獲豁免持續關連交易

本集團於2021年度訂立了若干不獲豁免持續關連交易。

就第1-4項及第8-9項持續關連交易而言，本公司已就2021年年度上限獲得股東大會批准通過。就第5-7項及第10-11項持續關連交易而言，本公司已就2021年年度上限向董事會取得批准，並就此刊發公告。

## REPORT OF THE BOARD OF DIRECTORS (CONTINUED) 董事會報告(續)

The table below sets out the annual caps and the actual transaction amounts of such continuing connected transactions.

下表載列年度上限及該等持續關連交易的實際交易金額。

Connected Party 關連方	Transaction Type 交易類型	Annual Cap for 2021 2021年 年度上限 (RMB million) (人民幣百萬元)	Annual Actual Transaction Amount for 2021 2021年年度 實際交易金額 (RMB million) (人民幣百萬元)
1 China Energy/Guodian Group 國家能源集團/國電集團	Provision of products and services by the Group for China Energy/Guodian Group and their subsidiaries 由本集團向國家能源集團/國電集團及其附屬公司 國電集團提供產品及服務	24,000.0	8,224.1
2 China Energy/Guodian Group 國家能源集團/國電集團	Provision of products and services by China Energy/Guodian Group and their subsidiaries to the Group 由國家能源集團/國電集團及其附屬公司向本集團 國電集團提供產品及服務	850.0	785.1
3 United Power 聯合動力	Provision of products and services by the Group to United Power and its subsidiaries 由本集團向聯合動力及其附屬公司提供產品及服務	500.0	125.3
4 United Power 聯合動力	Provision of products and services by United Power and its subsidiaries to the Group 由聯合動力及其附屬公司向本集團提供產品及服務	1,100.0	130.0
5 United Power 聯合動力	Property lease by the Group to United Power and its subsidiaries 由本集團向聯合動力及其附屬公司出租物業	30.0	17.1
6 Longyuan Technology 龍源技術	Provision of products and services by the Group to Longyuan Technology and its subsidiaries 由本集團向龍源技術及其附屬公司提供產品及服務	30.0	6.5
7 Longyuan Technology 龍源技術	Provision of products and services by Longyuan Technology and its subsidiaries to the Group 由龍源技術及其附屬公司向本集團提供產品及服務	130.0	21.3
8 China Energy Finance Co., Ltd. ("China Energy Finance") 國家能源集團財務有限公司(「國家能源財務公司」)	Provision of deposit services by China Energy Finance to the Group 由國家能源財務公司向本集團提供存款服務	4,500.0 <sup>(1)</sup>	3,888.2
9 China Energy Finance 國家能源財務公司	Provision of credit services by China Energy Finance to the Group 由國家能源財務公司向本集團提供信貸服務	2,500.0	2,005.0

# REPORT OF THE BOARD OF DIRECTORS (CONTINUED)

## 董事會報告(續)

Connected Party	Transaction Type	Annual Actual Transaction Amount for 2021	Annual Cap for 2021
關連方	交易類型	2021年年度實際交易金額 (RMB million) (人民幣百萬元)	2021年年度上限 (RMB million) (人民幣百萬元)
10 China Energy Finance 國家能源財務公司	Provision of other financial services by China Energy Finance to the Group 由國家能源財務公司向本集團提供其他金融服務	—	40.0
11 Guodian New Energy Technology Research Institute ("New Energy Research Institute") 國電新能源技術研究院 (「新能源研究院」)	Property lease by New Energy Research Institute to the Group 由新能源研究院向本集團出租物業	7.3	42.0
12. Wangkui New Energy 望奎新能源	Provision of products and services by the Group to Wangkui New Energy 由本集團向望奎新能源提供產品及服務	545.8	700.0

Note:

- (1) These numbers represent the maximum daily balance of the deposit placed with China Energy Finance by the Group.

**1. Provision of Products and Services by the Group for China Energy/Guodian Group and their subsidiaries (other than the Group)**

The Company entered into a framework agreement on the mutual supply of products and services ("**China Energy Framework Agreement**") with China Energy and Guodian Group on 13 November 2018, which the term is from 1 January 2019 to 31 December 2021. For details, see the announcement of the Company dated 13 November 2018.

The principal terms and conditions of China Energy Framework Agreement are set out as follows:

Products and services to be provided by the Company to China Energy/Guodian Group and their subsidiaries (other than the Group) mainly include:

- Supply of products: environmental protection (including ash removal, water treatment and denitrification catalyst) equipment, energy-saving (including plasma ignition combustion technology) equipment, wind turbine parts and components, power station distributed control system ("**DCS**"), etc.; and

附註：

- (1) 該等數字為本集團存於國家能源財務公司的每日最高存款餘額。

**1. 本集團向國家能源集團／國電集團及其附屬公司(除本集團外)提供產品及服務**

本公司與國家能源集團及國電集團於2018年11月13日訂立了互相供應產品及服務的框架協議(「**國家能源集團框架協議**」)，年期自2019年1月1日起至2021年12月31日。有關詳情請見本公司日期為2018年11月13日之公告。

國家能源集團框架協議主要條款及條件載列如下：

本公司向國家能源集團／國電集團及其附屬公司(除本集團外)提供的產品及服務主要包括：

- 產品供應類：環保(包括除塵、水處理、脫硝催化劑等)設備，節能(包括等離子體點火助燃技術等)設備，風機及其備品備件、配件，電站分散式控制系統(「**DCS**」)等；及

## REPORT OF THE BOARD OF DIRECTORS (CONTINUED) 董事會報告(續)

- Services: environmental protection services (including desulfurization and denitrification franchise, desulfurization and denitrification engineering, procurement and construction (“EPC”), and water treatment build-operate-transfer (“BOT”), energy conservation services (including steam turbine flow passage improvement and energy management contracts), wind farm and PV power station EPC services, power station general contracting, etc.

The parties to the China Energy Framework Agreement agree that the signing of China Energy Framework Agreement shall not preclude them from choosing counterparties at their discretion, or conducting transactions with third parties.

China Energy/Guodian Group agrees to prioritize the use of the Company's products and services, in the event that conditions and fees payable for the products and services to be provided by third parties are comparable with those of the products and services to be provided by the Company.

China Energy Framework Agreement has expired on 31 December, 2021. The Group has entered into the framework agreement on the purchase and sale of comprehensive products and services with China Energy on 5 November 2021, with a term from 1 January 2022 to 31 December 2024, which has been deliberated and adopted by the general meeting of shareholders. For details, please refer to the Company's announcements dated 5 November 2021 and 28 December 2021 and the circular dated 10 December 2021.

The products and services covered under China Energy Framework Agreement will be based on the following pricing policies:

- (1) Government-prescribed price (including any price prescribed by any relevant local government, if applicable);
- (2) Where there is no government-prescribed price but there is a government-guidance price, then the government-guidance price;
- (3) Where there is no government-prescribed or government-guidance price, the supplier shall be selected through a tender or non-tender inquiry, competitive negotiation procedure; or

- 服務類：環保服務(包括脫硫脫硝特許經營、脫硫脫硝設計採購施工(「EPC」)、水處理建設—經營—轉讓(「BOT」)等)，節能服務(包括汽輪機通流改造，合同能源管理等)，風電場及光伏電站EPC服務，電站總承包等。

訂約方同意，國家能源集團框架協議的簽訂並不影響各訂約方自主選擇交易對象，或與第三方進行交易。

國家能源集團／國電集團同意，對於本公司提供的產品和服務，在第三方提供的產品和服務條件及應支付費用相同時，應優先使用本公司的產品或服務。

國家能源集團框架協議有效期已於2021年12月31日屆滿，本集團已與國家能源集團於2021年11月5日訂立《綜合產品和服務購銷框架協議》，年期自2022年1月1日起至2024年12月31日，並經股東大會審議通過。有關詳情請見本公司日期為2021年11月5日及2021年12月28日之公告及2021年12月10日之通函。

國家能源集團框架協議項下涉及之產品及服務將按下列定價政策定價：

- (1) 政府定價(包括任何有關的地方政府的定價(如適用))；
- (2) 凡沒有政府定價，但有政府指導價的，則執行政府指導價；
- (3) 凡沒有政府定價和政府指導價的，需通過招標或非招標的詢價、競爭性談判程式選擇供應商；或

## REPORT OF THE BOARD OF DIRECTORS (CONTINUED)

### 董事會報告(續)

(4) Where the procurement procedures such as inquiry and competitive negotiation procedures are infeasible or impracticable, the contract negotiation may be adopted instead; or sole-source procurement process may be adopted directly in accordance with the relevant rules of China Energy/Guodian Group. In case of contract negotiation or sole-source procurement process, comparisons and negotiations between quotations of the exclusive supplier and historical or market prices shall be carried out.

As approved by the State-owned Assets Supervision and Administration Commission of the State Council of the PRC (the “SASAC”) (Guo Zi Fa Gai Ge [2017] No. 146), China Energy and Guodian Group have implemented strategic restructuring, such that Guodian Group is absorbed by and merged into China Energy. Prior to the absorption and merger, Guodian Group holds 78.40% equity interests of the Company. After the absorption and merger, all of the assets, liabilities, businesses, staff, contracts, qualifications and all other rights and obligations of Guodian Group will be transferred to/assumed by China Energy. China Energy/Guodian Group and their subsidiaries are the connected persons of the Company as defined in Chapter 14A of the Listing Rules. The transaction between the Group and China Energy/Guodian Group and their subsidiaries constitute the connected transaction of the Company under the Listing Rules.

China Energy is the world's largest coal group, thermal power group, wind power group and coal oil chemical group, and its two subsidiaries Guodian Power and Longyuan Power are listed companies and are the leaders in the thermal power industry and wind power industry respectively. As the Company cooperates with China Energy/Guodian Group for energy production activities, it provides environmental protection and energy conservation services for the thermal power generation facilities owned or operated by it and provides Guodian Group with the wind power generation products necessary for its renewable energy platform. It is estimated that the demand for the products and services provided by China Energy/Guodian Group will continue to grow gradually.

The annual cap of this continuing connected transaction for 2021 was RMB24,000.0 million and the actual transaction amount was RMB8,224.1 million for the Reporting Year.

(4) 如詢價、競爭性談判程序等採購程序不具可行性或實際上不可行，轉為合同談判方式；或根據國家能源集團／國電集團等相關公司規定，可直接採用單一來源方式採購。採用合同談判或單一來源方式，均將該獨家供應商的報價與歷史價或市場價進行比價磋商。

根據國務院國有資產監督管理委員會（「國資委」）（國資發改革）[2017]146號文）批准國家能源集團和國電集團實施戰略重組，國家能源集團對國電集團實施吸收合併。吸收合併交割前，國電集團持有本公司78.40%股權；吸收合併交割後，國電集團的全部資產、負債、業務、人員、合同、資質及其他一切權利與義務由國家能源集團承繼及承接。國家能源集團／國電集團及其附屬公司為上市規則第14A章定義下本公司的關連人士。本集團與國家能源集團／國電集團及其附屬公司之間的交易構成本公司於上市規則項下的關連交易。

國家能源集團為全球最大的煤炭集團、火力發電集團、風力發電集團及煤製油化工集團，其兩間附屬公司國電電力及龍源電力為上市公司，並分別為火電行業及風電行業的領先者。本公司因與國家能源集團／國電集團合作進行能源生產活動，向其旗下或經營的火電生產設施提供環保及節能服務，以及提供其可再生能源平台所用風力發電產品。預計國家能源集團／國電集團對本集團提供的產品及服務將保持持續而逐步擴大的需求。

此項持續關連交易的2021年年度上限為人民幣24,000.0百萬元，而報告年度內的實際交易金額為人民幣8,224.1百萬元。

## REPORT OF THE BOARD OF DIRECTORS (CONTINUED) 董事會報告(續)

### 2. *Provision of Products and Services by China Energy/Guodian Group and their subsidiaries (other than the Group) to the Group*

The China Energy Framework Agreement also specifies the products and services to be provided by China Energy/Guodian Group and their subsidiaries (other than the Group) to the Group.

Please refer to the relevant disclosure under “1. Provision of products and services by the Group for China Energy/Guodian Group and their subsidiaries (other than the Group)” for material terms and conditions of the relevant framework agreement.

Products and services provided by China Energy/Guodian Group and their subsidiaries (other than the Group) to the Group include desulfurization and denitrification equipment, water supply, electricity supply, steam supply and technical consulting services.

China Energy/Guodian Group undertakes that it will, and will cause any of their subsidiaries to deliver products and services to the Company under the terms equivalent to or superior to those provided to any third party.

China Energy/Guodian Group has the right to provide products and services for any third party on condition that the products and services provided for the Company will not be affected. Before meeting the Company's demand for products and services, China Energy/Guodian Group may not provide such products and services for any independent third party.

The Group believes that the stable provision of products and services by China Energy/Guodian Group to the Group is essential to the Group's environmental protection and energy conservation solutions and that the Group can benefit from the products and services provided by China Energy/Guodian Group.

The annual cap of this continuing connected transaction for 2021 was RMB850.0 million and the actual transaction amount was RMB785.1 million for the Reporting Year.

### 2. 國家能源集團／國電集團及其附屬公司(除本集團外)向本集團提供產品及服務

國家能源集團框架協議同時規定了國家能源集團／國電集團及其附屬公司(除本集團外)向本集團提供產品及服務。

該框架協議的主要條款及條件，請參閱上文「1.本集團向國家能源集團／國電集團及其附屬公司(除本集團外)提供產品及服務」項下的有關披露。

國家能源集團／國電集團及其附屬公司(除本集團外)向本集團提供的產品及服務包括：供應脫硫脫硝設備、供水、供電、供蒸汽和技術諮詢服務等。

國家能源集團／國電集團承諾其將，並將促使其附屬公司以相當於或優於提供給第三方的條款向本公司提供產品和服務。

國家能源集團／國電集團有權向第三方提供產品和服務，先決條件是向本公司提供的產品和服務將不受影響。在滿足本公司對產品和服務的需求前，國家能源集團／國電集團不得向獨立第三方提供該類產品和服務。

本集團認為國家能源集團／國電集團為本集團提供穩定的產品及服務，對本集團環保及節能解決方案業務至關重要，本集團能從國家能源集團／國電集團提供的產品及服務中受惠。

此項持續關連交易的2021年年度上限為人民幣850.0百萬元，而報告年度內的實際交易金額為人民幣785.1百萬元。

## REPORT OF THE BOARD OF DIRECTORS (CONTINUED)

### 董事會報告(續)

#### 3. Provision of Products and Services by the Group to United Power and its Subsidiaries

The Group entered into the Framework Agreement for Purchase and Sale of Comprehensive Products and Services for 2020-2022 (the “**United Power Framework Agreement**”) with United Power and its subsidiaries on 29 October 2019, for a term from 1 January 2020 to 31 December 2022.

Pursuant to the United Power Framework Agreement, the products and services to be provided by the Group to United Power and its subsidiaries include parts and components of wind turbine generators.

Subsidiaries of both parties will enter into separate agreements which shall set out the specific terms and conditions for the provision of such products and services according to the principles laid down by the United Power Framework Agreement.

The Company owned 70%, while Longyuan Power owned 30%, of the equity interest in United Power when the United Power Framework agreement was signed. China Energy, the controlling shareholder of the Company, owned 58.44% of the shares of Longyuan Power, and United Power was a connected person of China Energy. Pursuant to Chapter 14A of the Listing Rules, United Power and its subsidiaries were the connected persons of the Company and the transactions between United Power and its subsidiaries and the Company would be eliminated in consolidated financial statements of the Group.

United Power and its subsidiaries have always been the main subsidiaries and important customers of the Group (except United Power and its subsidiaries). The Group supplies parts and components of Wind turbines to United Power, which in turn sells the wind turbine generators equipped with these components. The Group has always benefited from cooperation between United Power and its subsidiaries. The relationship between the Group and United Power has always been mutually beneficial.

The annual cap of this continuing connected transaction for 2021 was RMB500.0 million and the actual transaction amount was RMB125.3 million for the Reporting Year.

#### 3. 本集團向聯合動力及其附屬公司提供產品及服務

本集團與聯合動力及其附屬公司於2019年10月29日訂立2020-2022年綜合產品和服務購銷框架協議(「**聯合動力框架協議**」)，年期自2020年1月1日至2022年12月31日。

根據聯合動力框架協議，本集團向聯合動力及其附屬公司供應的產品及服務，包括風力發電機組的零件及組件。

雙方的附屬公司將根據聯合動力框架協議所定的原則訂立獨立協議，當中將載有提供產品及服務的條款及條件。

簽訂聯合動力框架協議時，本公司擁有聯合動力70%的股權，而龍源電力擁有聯合動力30%的股權。本公司的控股股東國家能源集團持有龍源電力約58.44%的股權，聯合動力為國家能源集團的關連人士。根據上市規則第14A章，聯合動力及其附屬公司為本公司的關連人士，本公司與聯合動力及其附屬公司的交易結果將在合併財務報表層面抵銷。

聯合動力及其附屬公司一直為本集團(聯合動力及其附屬公司除外)的主要附屬公司及重要客戶。本集團向聯合動力供應風力發電機組的零件及組件，而聯合動力繼而出售已裝置此等零件及組件的風力發電機組。本集團一直受惠於與聯合動力及其附屬公司的合作，本集團與聯合動力的關係一直為互惠互利。

此項持續關連交易的2021年年度上限為人民幣500.0百萬元，而報告年度內的實際交易金額為人民幣125.3百萬元。

## REPORT OF THE BOARD OF DIRECTORS (CONTINUED)

### 董事會報告(續)

#### 4. *Provision of Products and Services by United Power and its Subsidiaries to the Group*

The United Power Framework Agreement also specifies the products and services to be provided by United Power and its subsidiaries to the Group.

For the principal terms and conditions of the United Power framework agreement, please refer to the relevant disclosure under “3. Provision of products and services by the Group for United Power and its subsidiaries” above.

The products and services provided by United Power and its subsidiaries to the Group include parts and components of wind turbine generators and operating services.

The Group is in need of the products and services, including parts and components of wind turbine generators, and operating services provided by United Power and its subsidiaries. The Group will benefit from the cooperation between United Power and its subsidiaries. The relationship between the Group and United Power has always been mutually beneficial.

The annual cap of this continuing connected transaction for 2021 was RMB1,100.0 million and the actual transaction amount was RMB130.0 million for the Reporting Year.

#### 5. *Property Lease by the Group to United Power and its subsidiaries*

The Group entered into the Property Lease Framework Agreement for 2020-2022 (the “**United Power Property Lease Framework Agreement**”) with United Power and its subsidiaries on 29 October 2019, for a term from 1 January 2020 to 31 December 2022.

The principal terms and conditions of United Power Property Lease Framework Agreement are set out as follows:

The Company agreed to lease land and buildings to United Power and its subsidiaries as offices, production facilities, workshops and staff quarters;

United Power and its subsidiaries are not allowed to sub-lease or transfer such properties to another party without the prior written consent from the Company;

During the term of the lease of the properties, each party to each lease will bear their own taxes in accordance with the applicable laws and regulations;

#### 4. *聯合動力及其附屬公司向本集團提供產品及服務*

聯合動力框架協議同時規定了由聯合動力及其附屬公司向本集團提供產品及服務。

有關聯合動力框架協議的主要條款及條件，請參閱上文「3.本集團向聯合動力及其附屬公司提供產品及服務」項下的有關披露。

由聯合動力及其附屬公司向本集團提供的產品及服務包括風力發電機組的零件及組件以及營運服務等。

本集團對聯合動力及其附屬公司所提供的產品及服務，包括風力發電機組的零件及組件及營運服務有需求。本集團將受惠於與聯合動力及其附屬公司的合作，本集團與聯合動力的關係一直為互惠互利。

此項持續關連交易的2021年年度上限為人民幣1,100.0百萬元，而報告年度內的實際交易金額為人民幣130.0百萬元。

#### 5. *由本集團向聯合動力及其附屬公司出租物業*

本集團與聯合動力及其附屬公司於2019年10月29日訂立2020-2022年物業租賃框架協議（「**聯合動力物業租賃框架協議**」），年期自2020年1月1日至2022年12月31日。

聯合動力物業租賃框架協議的主要條款及條件載列如下：

本公司同意將土地及樓宇租給聯合動力及其附屬公司用作辦公室、生產設施、車間及員工宿舍之用；

聯合動力及其附屬公司在未取得本公司的事先書面批准的情況下，不得分租或轉讓該物業予其他人士；

於物業租賃期內，訂約雙方將根據適用法律及法規承擔各自的稅項；



## REPORT OF THE BOARD OF DIRECTORS (CONTINUED) 董事會報告(續)

United Power has guaranteed that it and its subsidiaries will pay the rents specified for each of the properties in a timely manner and that United Power and its subsidiaries shall use the properties in accordance with the leases terms and will not cause or allow damage to the value of the properties by others;

The rights and obligations of the parties under United Power Property Lease Framework Agreement are not transferable; and

The rent for each of the leases has been determined for the three year period with reference to similar properties in locations as specified in each of the leases and (where applicable) will be adjusted in accordance with the terms of the lease by mutual agreement or by the appointment of an independent valuer acceptable to both parties. However, any such increment in rent shall be reasonable and shall not be higher than the rent that would otherwise be payable by an independent third party paying market rent for similar properties.

As a whole, the United Power Property Lease Framework Agreement enables the Company to use the property more effectively and minimize any unnecessary replacement cost for the Group. The United Power Property Lease Framework Agreement is beneficial to the Company and United Power and its subsidiaries and is fair and reasonable in the overall interest of the Company and its shareholders.

The annual cap of this continuing connected transaction for 2021 was RMB30.0 million and the actual transaction amount was RMB17.1 million for the Reporting Year.

聯合動力保證，聯合動力及其附屬公司將及時支付各項物業的指定租金，並根據租約使用物業，且不會亦不容許他人損害物業價值；

聯合動力物業租賃框架協議雙方的權利及責任不得轉讓；及

每份租約的租金乃經參考各租約指定地點的同類物業後按三年期限釐定，並(如適用)將通過雙方磋商或委任雙方認可的獨立估值師根據租約條款作出調整。然而，租金的任何增幅必須合理，不得高於獨立第三方就同類物業支付的市場租金。

聯合動力物業租賃框架協議在整體上有助本公司更加有效使用物業，並為本集團儘量降低任何不必要的置換成本。聯合動力物業租賃框架協議對本公司及聯合動力及其附屬公司有利，屬公平合理並符合本公司及股東的整體利益。

此項持續關連交易的2021年年度上限為人民幣30.0百萬元，而報告年度內的實際交易金額為人民幣17.1百萬元。

## REPORT OF THE BOARD OF DIRECTORS (CONTINUED)

### 董事會報告(續)

#### 6. *Provision of Products and Services by the Group to Longyuan Technology and its Subsidiaries*

The Group entered into the Framework Agreement for Purchase and Sale of Comprehensive Products and Services for 2020-2022 (the "**Longyuan Technology Framework Agreement**") with Longyuan Technology and its subsidiaries on 29 October 2019, for a term from 1 January 2020 to 31 December 2022.

The principal terms and conditions of Longyuan Technology Framework Agreement are set out as follows:

The products and services to be provided by the Group for Longyuan Technology and its subsidiaries include DCS and accessories, and on-site assembling and commissioning.

If the conditions of similar products and services and the fees payable thereof offered by an independent third party are not better than those offered by one of the parties, the other party will give priority in sourcing the requisite products and services from the first party.

The Group and Longyuan Technology and its subsidiaries will enter into separate agreements which shall set out the specific scope of products and services in accordance with the terms and conditions for the provision of such products according to the principles laid down by the Longyuan Technology Framework Agreement.

The Company directly holds 23.25% of the issued share capital of Longyuan Technology. The Company is the main shareholder of Longyuan Technology. As at the date of this report, Hero Asia (BVI) Company Limited, a wholly owned subsidiary of Longyuan Power, owned approximately 18.75% of the equity interest in Longyuan Technology. Given that Longyuan Power is a subsidiary of China Energy, Longyuan Technology and its subsidiaries are connected persons of the Company under Chapter 14A of the Listing Rules and the transactions between Longyuan Technology and its subsidiaries and the Group will be eliminated in consolidated financial statements of the Group.

Longyuan Technology needs the DCS scattered control systems, the site assembly and commissioning, and other products and services provided by the Group; and the Group has always been benefiting from the cooperation with Longyuan Technology.

#### 6. *由本集團向龍源技術及其附屬公司提供產品及服務*

本集團與龍源技術及其附屬公司於2019年10月29日訂立2020-2022年綜合產品和服務購銷框架協議(「**龍源技術框架協議**」)，年期自2020年1月1日至2022年12月31日。

龍源技術框架協議主要條款及條件載列如下：

本集團向龍源技術及其附屬公司提供的產品和服務包括：DCS及相關備件、DCS的現場組裝及調試服務等。

倘獨立第三方提供類似產品及服務的條件及就此收取的費用並不比其中一方所提供者優惠，則另一方將優先向對方採購所需產品及服務。

本集團與龍源技術及其附屬公司將訂立獨立協議，當中將載有服務的具體範圍、產品以及根據龍源技術框架協議所定的原則提供該等產品的條款及條件。

本公司直接持有龍源技術已發行股份的約23.25%，本公司為龍源技術的主要股東。於本報告日，雄亞(維爾京)有限公司是龍源電力的一間全資附屬公司，擁有龍源技術約18.75%股權。鑒於龍源電力是國家能源集團的附屬公司，根據上市規則第14A章，龍源技術及其附屬公司為本公司的關連人士，且本集團與龍源技術及其附屬公司的交易結果將在本集團的合併財務報表層面抵銷。

龍源技術需要本集團提供的DCS分散控制系統及其現場組態及調試等產品及服務，本集團一直受惠於與龍源技術的合作。

## REPORT OF THE BOARD OF DIRECTORS (CONTINUED)

### 董事會報告(續)

The annual cap of this continuing connected transaction for 2021 was RMB30.0 million and the actual transaction amount for the Reporting Year was RMB6.5 million.

#### 7. **Provision of Products and Services by Longyuan Technology and its Subsidiaries to the Group**

The Longyuan Technology Framework Agreement has also set forth the provision of products and services by Longyuan Technology and its subsidiaries to the Group.

For the principal terms and conditions of Longyuan Technology Framework Agreement, please refer to the relevant disclosures under “6. Provision of products and services by the Group to Longyuan Technology and its subsidiaries”.

The products and services provided by Longyuan Technology and its subsidiaries to the Group include plasma ignition equipment and other products and services for environmental protection and energy conservation, software development, operation and maintenance, market services, etc.

Longyuan Technology is an important supplier of products and services of the Group. The Group has always been benefiting from the cooperation with Longyuan Technology and believes that the provision of stable products and services by Longyuan Technology to the Group is essential to the Group's business.

The annual cap of this continuing connected transaction for 2021 was RMB130.0 million and the actual transaction amount for the Reporting Year was RMB21.3 million.

#### 8. **Provision of deposit services by China Energy Finance to the Group**

The Company entered into a financial service framework agreement (the “**Financial Service Framework Agreement of China Energy Finance**”) with China Energy Finance on 29 September 2020, which was approved at the general meeting of shareholders held on 10 November 2020 to take effect. Pursuant to this, China Energy Finance provides financial services to the Group for a duration commencing from 10 November 2020 to 31 December 2022.

Part of the principal terms and conditions of the Financial Service Framework Agreement of China Energy Finance are set out as follows:

此項持續關連交易的2021年年度上限為人民幣30.0百萬元，而報告年度內的實際交易金額為人民幣6.5百萬元。

#### 7. **由龍源技術及其附屬公司向本集團提供產品及服務**

龍源技術框架協議同時規定了由龍源技術及其附屬公司向本集團提供產品及服務。

龍源技術框架協議的主要條款及條件，請參閱上文「6.由本集團向龍源技術及其附屬公司提供產品及服務」項下的有關披露。

龍源技術及其附屬公司為本集團提供的產品及服務包括：等離子體點火設備等環保節能產品和服務、軟件發展及運維、市場服務等。

龍源技術為本集團重要的產品及服務供應商。本集團一直受惠於與龍源技術的合作，並認為龍源技術為本集團提供穩定的產品及服務，對本集團業務至關重要。

此項持續關連交易的2021年年度上限為人民幣130.0百萬元，而報告年度內的實際交易金額為人民幣21.3百萬元。

#### 8. **由國家能源財務公司向本集團提供存款服務**

本公司於2020年9月29日與國家能源財務公司訂立金融服務框架協議（「**國家能源財務公司金融服務框架協議**」），經2020年11月10日召開的股東大會批准生效。據此，國家能源財務公司向本集團提供金融服務，年期自2020年11月10日起至2022年12月31日。

國家能源財務公司金融服務框架協議的部分主要條款及條件如下：

## REPORT OF THE BOARD OF DIRECTORS (CONTINUED) 董事會報告(續)

The services provided by China Energy Finance to the Group encompass deposit services, which include but not limited to demand deposits, negotiated deposits, call deposits and time deposits.

China Energy Finance undertakes that the terms on which China Energy Finance provides financial services to the Group are no less favorable than the terms on which China Energy Finance provides to other members of China Energy, or the terms on which commercial banks provide the same type of financial services to the Group.

The Group uses the service provided by China Energy Finance on a voluntary rather than mandatory basis and is not obliged to engage China Energy Finance for any particular service. China Energy Finance may enter into individual financial service agreements with the Company and its subsidiaries from time to time.

Subject to the laws and regulations and relevant provisions of the People's Bank of China, the CBIRC and other relevant regulatory authorities, the interest rates for deposits taken by China Energy Finance from members of the Group shall, under the same conditions, be no less than the interest rates determined by the four major commercial banks in China for the same type of deposit services provided to members of the Group and shall be determined on normal commercial terms. Under the same conditions, China Energy Finance shall provide the Group with interest rates for the same type of deposits in accordance with the principle of equal treatment for members of China Energy.

As defined in the Listing Rules, China Energy holds approximately 78.40% of the issued share capital of the Company directly or indirectly and is the controlling shareholder of the Company. Given that China Energy Finance is a subsidiary of China Energy, China Energy Finance is a connected person of the Company under Chapter 14A of the Listing Rules. Accordingly, the Financial Service Framework Agreement of China Energy Finance and the transactions contemplated thereunder constitute continuing connected transactions for the Company under Chapter 14A of the Listing Rules.

The maximum daily deposit balance (including any interest payable on the deposits) of the Group placed with China Energy Finance in the year 2021 was RMB4,500.0 million, while the actual maximum daily deposit balance during the Reporting Year was RMB3,888.2 million.

國家能源財務公司向本集團提供的服務包括存款服務，包括但不限於活期存款、協議存款、通知存款及定期存款。

國家能源財務公司承諾，國家能源財務公司向本集團提供金融服務的條款不遜於國家能源財務公司向國家能源集團旗下其他成員提供金融服務的條款、或商業銀行向本集團提供同種類金融服務的條款。

本集團按自願而非強制性基準使用國家能源財務公司提供的服務，且並無責任就任何特定服務而委聘國家能源財務公司。國家能源財務公司可不時與本公司及其附屬公司簽訂獨立個別金融服務協議。

在符合中國人民銀行、中國銀保監會等相關監管機構的法律法規及相關規定的前提下，國家能源財務公司吸收本集團成員單位存款的利率，在同等條件下，不低於國內四大商業銀行向本集團成員單位提供同種類存款服務所確定的利率並按一般商業條款釐定。同等條件下，國家能源財務公司將按照國家能源集團成員單位平等對待原則就同種類存款為本集團提供相應利率。

根據上市規則定義，國家能源集團直接或間接持有本公司約78.40%已發行股本，為本公司的控股股東。鑒於國家能源財務公司是國家能源集團的附屬公司，因此國家能源財務公司為上市規則第14A章下本公司的關連人士。因此，根據上市規則第14A章，金融服務框架協議及其項下擬進行的交易構成本公司的持續關連交易。

2021年度本集團存置於國家能源財務公司的每日存款餘額上限(包括存款中任何應付利息)為人民幣4,500.0百萬元，而報告年度內的實際最高每日存款餘額為人民幣3,888.2百萬元。

## REPORT OF THE BOARD OF DIRECTORS (CONTINUED)

### 董事會報告(續)

#### 9. *Provision of credit services by China Energy Finance to the Group*

The Financial Service Framework Agreement of China Energy Finance also sets forth the provision of credit services by China Energy Finance to the Group, including but not limited to fixed asset loans, project revolving loans, working capital loans, temporary working capital revolving loans, bill opening, acceptance and discounting, financial guarantee services (including performance guarantee, quota sharing and other guarantee business within the business scope of financial enterprises) and commercial factoring.

Please refer to the relevant disclosures under “11. Provision of deposit services by China Energy Finance to the Group” above for part of the principal terms and conditions of the Financial Service Framework Agreement of China Energy Finance.

The interest rates for loans granted by China Energy Finance to members of the Group shall, under the same conditions, be no higher than the interest rates determined by the four major commercial banks in China for the same type of loan services provided to the members of the Group, and shall be determined on normal commercial terms. Under the same conditions, China Energy Finance shall offer the Group the corresponding interest rates for the same type of loans in accordance with the principle of equal treatment for the members of the China Energy Corporation.

The annual cap of this continuing connected transaction for 2021 was RMB2,500.0 million and the actual transaction amount for the Reporting Year was RMB2,005.0 million..

#### 10. *Provision of other financial services to the Group by China Energy Finance*

The Financial Service Framework Agreement of China Energy Finance also sets forth that China Energy Finance shall provide other financial services to the Group, including but not limited to intra-group transfer and settlement services; assistance in the collection and payment of transaction amounts; handling of entrusted loans and entrusted investments between the Group and members of China Energy; financial and financing consultancy, credit verification and related advisory and agency services; underwriting distribution of financial instruments such as debt financing instruments and corporate bonds; and other financial services (letters of credit, internet banking, entrusted loans, etc.) and the collection of agency fees, handling fees, advisory fees or other service charges, etc.

#### 9. *由國家能源財務公司向本集團提供信貸服務*

國家能源財務公司金融服務框架協議同時規定了由國家能源財務公司向本集團提供信貸服務，包括但不限於固定資產貸款、項目週轉貸款、流動資金貸款、臨時流動資金週轉貸款、票據開立、承兌及貼現、金融擔保服務(包括履約保函、額度共享等金融企業營業範圍內的擔保業務)及商業保理等。

國家能源財務公司金融服務框架協議的部分主要條款及條件，請參閱上文「11.由國家能源財務公司向本集團提供存款服務」項下的有關披露。

國家能源財務公司向本集團成員單位發放貸款的利率，在同等條件下，不高於國內四大商業銀行向本集團成員單位提供同種類貸款服務所確定的利率並按一般商業條款釐定。同等條件下，國家能源財務公司將按照國家能源集團成員單位平等對待原則就同種類貸款為本集團提供相應利率。

此項持續關連交易的2021年度上限為人民幣2,500.0百萬元，而報告年度內的實際交易金額為人民幣2,005.0百萬元。

#### 10. *由國家能源財務公司向本集團提供其他金融服務*

國家能源財務公司金融服務框架協議同時規定了由國家能源財務公司向本集團提供其他金融服務，包括但不限於集團內轉賬及結算服務；協助實現交易款項的收付；辦理本集團與國家能源集團成員單位之間的委託貸款及委託投資；財務和融資顧問、信用鑒證及相關的諮詢、代理業務；承銷或分銷債務融資工具、公司債券、企業債券等金融工具；其他金融服務(信用證、網上銀行、委託貸款等)並收取代理費、手續費、諮詢費或其他服務費用等。

## REPORT OF THE BOARD OF DIRECTORS (CONTINUED)

### 董事會報告(續)

Please refer to the relevant disclosures under “11. Provision of deposit services by China Energy Finance to the Group” above for part of the principal terms and conditions of the Financial Service Framework Agreement of China Energy Finance.

The service fees charged by China Energy Finance to the members of the Group for the provision of financial services shall, under the same conditions, be no higher than the service fees charged by financial institutions such as the four major commercial banks in China for the provision of the same type of financial services to members of the Group, and shall be determined on normal commercial terms. Under the same conditions, China Energy Finance shall charge the Group services fees for the provision of the same type of financial services in accordance with the principle of equal treatment among the members of China Energy.

The annual cap of this continuing connected transaction for 2021 was RMB40.0 million and there was no actual transaction amount during the Reporting Year.

#### 11. *Property Lease by New Energy Research Institute to the Group*

On 30 December 2020, the Company entered into a property lease framework agreement (the “**New Energy Research Institute Property Lease Framework Agreement**”) for 2021 with New Energy Research Institute. Pursuant to the Framework Agreement, New Energy Research Institute agreed to lease certain premises to the Company and its subsidiaries for a term of one year from 1 January 2021 to 31 December 2021.

During the term of the leases of the properties, each party to each lease will bear its respective taxes in accordance with the applicable laws and regulations. The Company has guaranteed that the Group will pay the rent and property management fee for each of the properties in a timely manner and that the Group will use the properties in accordance with the agreed purposes of the leases and will not damage the value of the use of the properties. The rent and property management fee will be determined based on the condition of each premise with reference to the fair and reasonable market price and rent and property management fee of comparable properties in similar locations.

國家能源財務公司金融服務框架協議的部分主要條款及條件，請參閱上文「11.由國家能源財務公司向本集團提供存款服務」項下的有關披露。

國家能源財務公司向本集團成員單位提供金融服務所收取的服務費，在同等條件下，不高於國內四大商業銀行等金融機構向本集團成員單位提供同種類金融服務所收取的服務費並按一般商業條款釐定。同等條件下，國家能源財務公司將按照國家能源集團成員單位平等對待原則就提供同種類金融服務向本集團收取相應的服務費。

此項持續關連交易的2021年度上限為人民幣40.0百萬元，而報告年度內並無實際交易金額。

#### 11. *由新能源研究院向本集團出租物業*

於2020年12月30日，本公司及各附屬公司與新能源研究院訂立2021年物業租賃框架協議（「**新能源研究院物業租賃框架協議**」）。根據該框架協議，新能源研究院同意向本公司及其附屬公司出租若干物業，自2021年1月1日起計至2021年12月31日止，為期一年。

於物業租賃期內，根據適用法律及法規，各項租賃的各訂約方將承擔各自的稅項。本公司已承諾，本集團將按時支付各物業的租金及物業管理費，而本集團將根據租約的約定用途使用物業，且不會損害物業的使用價值。租金和物業管理費將按各物業的狀況經參考公平合理的市價以及於類似地點的可資比較物業的租金及物業管理費後釐定。

## REPORT OF THE BOARD OF DIRECTORS (CONTINUED) 董事會報告(續)

China Energy/Guodian Group and their subsidiaries are connected persons of the Company as defined in Chapter 14A of the Listing Rules. New Energy Research Institute is wholly-owned by China Energy/Guodian Group and therefore a related party of the Company. In accordance with Chapter 14A of the Listing Rules, the proposed transaction under the framework agreement constitutes the continuing connected transaction of the Company.

The transaction provides a number of subsidiaries of the Company with stable and necessary office properties and enables them to carry out their business in the properties of New Energy Research Institute. The New Energy Research Institute Property Lease Framework Agreement was entered into after fair negotiation and is in favor of the Company and its related subsidiaries.

The annual cap of this continuing connected transaction for 2021 was RMB42.0 million and the actual transaction amount for the Reporting Year was RMB7.3 million.

On 27 December 2021, the Company entered into a Property Lease Framework Agreement for 2022 with New Energy Research Institute. Pursuant to such agreement, New Energy Research Institute agreed to lease certain premises to the Company and its subsidiaries for a term of one year commencing from 1 January 2022 and ending on 31 December 2022. For details, see the announcement of the Company dated 27 December 2021.

### 12. *Provision of products and services by the Group to Wangkui New Energy*

On 13 August 2021 (after trading hours), the Company entered into the Framework Agreement with Wangkui New Energy (“**Wangkui New Energy Framework Agreement**”), pursuant to which, the Company agrees to provide comprehensive products and services to Wangkui New Energy and its subsidiaries. The term of Wangkui New Energy Framework Agreement shall be effective from 19 October 2021, the date on which Wangkui New Energy Framework Agreement is approved by the Independent Shareholders and end on 31 December 2021 (both days inclusive).

國家能源集團／國電集團及其附屬公司為上市規則第14A章定義下本公司的關連人士。而新能源研究院由國家能源集團／國電集團全資擁有，因此為本公司關連人士。根據上市規則第14A章，該框架協議項下擬進行的交易構成本公司之持續關連交易。

該交易為本公司若干附屬公司提供穩定及所需的辦公室物業，並讓彼等能於新能源研究院之物業內進行其業務。新能源研究院物業租賃框架協議乃經公平磋商後訂立，且對本公司及其相關附屬公司有利。

報告年度內，此項持續關連交易的2021年年度上限為人民幣42.0百萬元，而報告年度內的實際交易金額為人民幣7.3百萬元。

於2021年12月27日，本公司與新能源研究院訂立2022年物業租賃框架協議。根據該協議，新能源研究院同意向本公司及其附屬公司出租若干物業，自2022年1月1日起計至2022年12月31日止，為期一年。有關詳情請見本公司日期為2021年12月27日之公告。

### 12. *由本集團向望奎新能源提供產品及服務*

於2021年8月13日(交易時段後)，本公司與望奎新能源訂立框架協議(望奎新能源框架協議)，據此，本公司同意向望奎新能源及其附屬公司提供綜合產品和服務。望奎新能源框架協議之期限自2021年10月19日獲獨立股東批准之日起生效，有效期至2021年12月31日止(包括首尾兩日)。

## REPORT OF THE BOARD OF DIRECTORS (CONTINUED) 董事會報告(續)

As at the date of this report, Wangkui New Energy is 65% owned by the Company and 35% owned by Longyuan Technology. China Energy is the controlling shareholder of the Company, directly or indirectly holding approximately 78.40% of the issued share capital of the Company, and the Company directly holds approximately 22.83% of the issued share capital of Longyuan Technology. In addition, as at the date of this report, Hero Asia (BVI) Company Limited, a wholly-owned subsidiary of Longyuan Power, owns approximately 18.75% equity interests in Longyuan Technology. Since Longyuan Power is a subsidiary of China Energy and Longyuan Technology is a connected person of the Company, Wangkui New Energy is a connected person of the Company. Accordingly, Wangkui New Energy Framework Agreement and the transactions contemplated thereunder constitute continuing connected transactions of the Company under Chapter 14A of the Listing Rules.

Since the highest applicable percentage ratio in respect of the proposed annual cap for the transactions contemplated under Wangkui New Energy Framework Agreement is more than 5%, the transactions contemplated under Wangkui New Energy Framework Agreement and the proposed annual cap are subject to the reporting, annual review, announcement, circular and Independent Shareholders' approval requirements under Chapter 14A of the Listing Rules.

Pursuant to Wangkui New Energy Framework Agreement, the products or services that the Company shall provide to Wangkui New Energy and its subsidiaries include power station EPC, centralized control data access and intelligent station construction, intelligent online or remote monitoring and monitoring system, relevant commissioning, management and operation services.

The annual cap of this continuing connected transaction for 2021 was RMB700.0 million and the actual transaction amount was RMB545.8 million for the Reporting Year.

於本報告日期，望奎新能源由本公司擁有65%股權及龍源技術擁有35%股權。國家能源集團為本公司的控股股東，直接或間接持有本公司約78.40%的已發行股本；本公司直接持有龍源技術約22.83%的已發行股本。此外，於本報告日期，龍源電力之全資附屬公司雄亞(維爾京)有限公司擁有龍源技術約18.75%的股權。鑒於龍源電力為國家能源集團的附屬公司，龍源技術為本公司的關連人士，故望奎新能源為本公司的關連人士。因此，根據上市規則第14A章，望奎新能源框架協議及其項下擬進行交易構成本公司之持續關連交易。

由於望奎新能源框架協議項下擬進行交易之建議年度上限的最高適用百分比率超過5%，望奎新能源框架協議項下擬進行交易及建議年度上限須遵守上市規則第14A章有關申報、年度審閱、公告、通函及獨立股東批准的規定。

根據望奎新能源框架協議，本公司向望奎新能源及其附屬公司提供的產品或服務包括電站EPC，集控數據接入及智能場站建設，智能在線或遠程監測、監視系統，相關調試、管理及運營服務等。

此項持續關連交易的2021年年度上限為人民幣700.0百萬元，報告年度內的實際交易金額為人民幣545.8百萬元。



# REPORT OF THE BOARD OF DIRECTORS (CONTINUED)

## 董事會報告(續)

### REVIEW OF INDEPENDENT NON-EXECUTIVE DIRECTORS

The independent non-executive Directors have reviewed each of the above-mentioned continuing connected transactions and confirmed that such transactions were:

- (1) made in the ordinary and usual course of business of the Group;
- (2) on normal commercial terms or better, or, if there are no comparable transactions to determine whether they are on normal commercial terms or better, from the perspective of the Group, on terms of such transactions no less favorable than the terms available to or from an independent third party; and
- (3) in accordance with relevant agreements governing the relevant transactions on terms that are fair and reasonable and in the interests of the Shareholders as a whole.

### LETTER FROM AUDITORS

Pursuant to Rule 14A.56 of the Listing Rules, the Company's auditor was engaged by the Board of Directors to report on the Group's continuing connected transactions in accordance with Hong Kong Standard on Assurance Engagements 3000 (Revised) "Assurance Engagements Other Than Audits or Reviews of Historical Financial Information" and with reference to Practice Note 740 "Auditor's Letter on Continuing Connected Transactions under the Listing Rules" issued by the Hong Kong Institute of Certified Public Accountants. Based on the work performed, the auditor of the Company confirmed to the Board of Directors that the aforesaid continuing connected transactions:

- (1) have been approved by the Board of Directors;
- (2) involving the provision of products and services by the Group were entered into in accordance with the pricing policies of the Group stipulated under the relevant agreements governing such transactions;
- (3) have been entered into in accordance with the relevant agreements governing such transactions; and
- (4) have not exceeded the relevant annual caps as disclosed in the relevant announcements of the Company.

The auditor has issued a letter containing its findings and conclusions in respect of the continuing connected transactions disclosed by the Group on pages 79 to 94 of this report in accordance with Rule 14A.56 of the Listing Rules. A copy of the auditor's letter has been provided by the Company to the Stock Exchange.

### 獨立非執行董事審核確認情況

本公司獨立非執行董事已審閱上述各項持續關連交易，並確認該等交易：

- (1) 在本集團日常業務過程中訂立；
- (2) 按照一般商業條款或更佳條款進行，或如並無可供比較的交易釐定該等交易是否按一般商業條款或更佳條款進行，則對本集團而言，該等交易的條款不遜於獨立協力廠商可取得或提供的條款；及
- (3) 根據規管有關交易的相關協議進行，而條款公平合理，並符合本公司股東整體利益。

### 核數師函件

根據上市規則第14A.56條，本公司核數師已獲董事會聘用，根據香港會計師公會頒佈之香港鑒證業務準則第3000號(經修訂)[非審核或審閱歷史財務資料之鑒證工作]及參照實務說明第740號[關於香港上市規則所述持續關連交易的核數師函件]就本集團的持續關連交易作出報告。根據所執行的工作，本公司核數師向董事會確認上述持續關連交易：

- (1) 已獲董事會批准；
- (2) 涉及由本集團提供產品及服務的，乃按照規管有關交易的協議規定的本集團的定價政策而進行；
- (3) 已根據規管有關交易的協議條款進行；及
- (4) 並無超過本公司的相關公告中披露的有關年度上限。

根據上市規則第14A.56條，核數師已就本報告第79至94頁本集團所披露的持續關連交易出具列載其發現及結論的函件。本公司已向聯交所提供核數師函件之副本。

## REPORT OF THE BOARD OF DIRECTORS (CONTINUED)

### 董事會報告(續)

Save as disclosed above, no related party transaction set out in the Notes to the Financial Statements falls into the category of connected transactions or continuing connected transactions under the Listing Rules.

### RELATED PARTY TRANSACTIONS

The related party transactions in 2021 disclosed in Note 43(a) to the Financial Statements in accordance with International Accounting Standard 24 “Related Party Disclosures” that also fall under the definitions of “connected transaction” or “continuing connected transaction” (as the case may be) in Chapter 14A of the Listing Rules have been disclosed in the section headed “Connected Transactions”. Note 43(a) to the Financial Statements also includes related party transactions that do not fall under the definition of “connected transaction” or “continuing connected transaction” or are otherwise fully exempt from all disclosure requirements in accordance with Chapter 14A of the Listing Rules.

### TRUST DEPOSIT

For the year ended 31 December 2021, the Company and its subsidiaries have not placed any trust deposit at domestic or overseas financial institutions, and had no unrecovered time deposit which had passed their maturity dates.

### COMPLIANCE WITH NON-COMPETITION AGREEMENT

The Company entered into the non-competition agreement (the “**Non-Competition Agreement**”) with Guodian Group and Guodian Power respectively on 23 November 2011.

Pursuant to the Non-Competition Agreement, Guodian Group and Guodian Power provided certain non-competition undertakings to the Company and granted the options and pre-emptive rights to acquire the retained business and any new business opportunities of Guodian Group or Guodian Power (as the case may be) to the Company. Pursuant to the Non-Competition Agreement, the independent non-executive Directors are responsible for reviewing and considering whether to exercise such options and pre-emptive rights and are entitled, on behalf of the Company, to review the implementation of the undertakings under the agreement on an annual basis.

According to the Confirmation of Transfer Registration issued by China Securities Depository and Clearing Co., Ltd. on 30 July 2019, the Company's 2,377,500,000 domestic shares directly held by Guodian Group were transferred to China Energy on 30 July 2019. Therefore the statement on the implementation of the Non-Competition Agreement with Guodian Group is presented by China Energy from 2020.

除上述披露外，沒有載列於財務報表附註的任何關聯方交易屬於上市規則下的關連交易或持續關連交易。

### 關聯方交易

於財務報表附註43(a)中根據國際會計準則第24號「關聯方披露」所披露的2021年度關聯方交易中，同時也歸入上市規則第14A章有關「關連交易」或「持續關連交易」的定義(視乎何情況而定)，已遵守上市規則第14A章的披露規定於「關連交易」章節中對該等交易進行了披露。財務報表附註43(a)也包括不歸入上市規則第14A章所定義的「關連交易」或「持續關連交易」或獲全面豁免所有披露規定的關聯方交易。

### 委託存款

截至2021年12月31日止年度，本公司及其附屬公司未有存放於中國境內外金融機構的任何委託存款，亦未出現定期存款到期而不能償付的情況。

### 《避免同業競爭協議》的遵守

於2011年11月23日，本公司分別與國電集團及國電電力訂立《避免同業競爭協議》(「**避免同業競爭協議**」)。

根據避免同業競爭協議，國電集團及國電電力對本公司作出了若干不競爭承諾，並授予本公司收購國電集團及國電電力保留業務及任何新業務機會的選擇權及優先受讓權。根據避免同業競爭協議，本公司的獨立非執行董事負責審閱並考慮是否行使該等選擇權及優先受讓權，並有權代表本公司對該協議下承諾的執行情況進行年度審查。

根據2019年7月30日中國證券登記結算有限責任公司出具的《過戶登記確認書》，國電集團直接持有的本公司2,377,500,000股內資股，已於2019年7月30日過戶登記至國家能源集團名下。因此從2020年度開始，與國電集團間的《避免同業競爭協議》的執行情況聲明由國家能源集團出示。

## REPORT OF THE BOARD OF DIRECTORS (CONTINUED)

### 董事會報告(續)

On 16 June 2021, the Company entered into a Supplementary Agreement to the Non-Competition Agreement with China Energy to amend the interpretation of the Company's "main business" specified in the Non-Competition Agreement to reflect the main business of the Company after the completion of the equity sale of United Power.

During the year, the independent non-executive Directors have reviewed the implementation of the Non-Competition Agreement and confirmed that China Energy and Guodian Power had been in full compliance with the agreement and there was no breach by Guodian Group and Guodian Power.

### MAJOR CUSTOMERS AND SUPPLIERS

For the year ended 31 December 2021, the purchase from the Group's five largest suppliers in aggregate contributed 15.1% of the Group's total purchase for the year, among which, the total purchase from the largest supplier contributed 3.7% of the Group's total purchase for the year.

For the year ended 31 December 2021, the sales to the Group's five largest customers in aggregate contributed 28.2% of the Group's total sales for the year, among which, the sales to the largest customer contributed 16.6% of the Group's total sales for the year.

Guodian Power and Longyuan Power, the main customers of the Group, are the subsidiaries of China Energy and the Group's connected persons. Save as disclosed above, during the year, so far as the Directors are aware, none of the Directors, associates of Directors or any Shareholders (who to the knowledge of the Directors owns more than 5% of the Company's issued share capital) had any interest in the Company's five largest suppliers or customers during the year.

### SIGNIFICANT CONTRACTS

Save as disclosed in the section headed "Connected Transactions" on page 72-94 of this report, neither the Company nor any of its subsidiaries has entered into any significant contract with the controlling shareholder or any of its subsidiaries other than the Group, and the Group did not enter into significant contracts with the controlling shareholder or any of its subsidiaries other than the Group in relation to the provision of services.

### INTERESTS OF THE CONTROLLING SHAREHOLDER IN SIGNIFICANT CONTRACTS

Details of significant contracts entered into between the Company and the controlling shareholder or its subsidiaries are disclosed in the section headed "Connected Transactions" on page 72-94 of this report.

### ISSUED BONDS

The Company did not issue new bonds in 2021.

於2021年6月16日，本公司與國家能源集團訂立《避免同業競爭協議補充協議》，據此修訂避免同業競爭協議中規定的本公司「主要業務」的釋義，以反映聯合動力股權出售完成後本公司的主要業務。

本年度內，本公司獨立非執行董事已就《避免同業競爭協議》的執行情況進行了審閱，並確認國家能源集團及國電電力已充分遵守該協議，並無任何違約情形。

### 主要客戶及供應商

截至2021年12月31日止年度，本集團五大供應商的購買額共佔本集團本年度購買總額的15.1%，其中最大供應商的購買總額佔本集團本年度購買總額的3.7%。

截至2021年12月31日止年度，本集團向五大客戶作出的銷售共佔本集團本年度銷售總額的28.2%，其中向最大客戶作出的銷售佔本集團本年度銷售總額的16.6%。

本集團主要客戶國電電力及龍源電力為國家能源集團的附屬公司，均為本集團的關連人士。除上文披露外，於本年度內，就董事所知，概無董事、董事的聯繫人或本公司任何股東（據董事所知擁有本公司已發行股本5%以上的權益）於本年度內在本公司五大供應商或客戶中擁有任何權益。

### 重大合約

除於本報告第72至94頁的「關連交易」一節中披露之外，本公司或其任何一家附屬公司概無和控股股東或其任何一家除本集團之外的附屬公司簽訂重大合約，且本集團並不存在與控股股東或其任何一家除本集團之外的附屬公司之間提供服務的重大合約。

### 控股股東於重要合約的權益

本公司與控股股東或其附屬公司之間所訂的重要合約詳情已披露於本報告第72至94頁的「關連交易」一節。

### 已發行的債權證

本公司本年度並無新發行債權證。

# REPORT OF THE BOARD OF DIRECTORS (CONTINUED)

## 董事會報告(續)

### RETIREMENT AND EMPLOYEES BENEFIT SCHEME

Details of the Group's retirement and employees benefit scheme are set out in Note 10(a) to the Financial Statements.

### COMPLIANCE WITH THE CODE ON CORPORATE GOVERNANCE PRACTICES

In 2021, the Company has complied with relevant code provisions as set out in the Code on Corporate Governance Practices in Appendix 14 to the Listing Rules. Please refer to the Corporate Governance Report of this report for details.

### PUBLIC FLOAT

Based on information publicly available to the Company and so far as the Directors are aware, not less than 21.6% of the issued share capital of the Company was held by the public as of the date of this report, which was in compliance with the requirements under the Listing Rules.

### MATERIAL LITIGATION AND ARBITRATION

For the year ended 31 December 2021, the Company has not involved in any litigation or arbitration that has material adverse effect on the overall business, operational or financial position of the Company.

### AUDIT COMMITTEE

According to the Listing Rules, the Group has established an audit committee ("**Audit Committee**"), the responsibilities of which include providing the Board of Directors with suggestions to the appointment, re-appointment and dismissal of external independent auditors, and monitoring their work. The Audit Committee comprises Mr. YEUNG Chi Tat (independent non-executive Director), Mr. SHEN Xiaoliu (independent non-executive Director) and Mr. ZHANG Wenjian (non-executive Director). The 2021 annual results of the Group and the Financial Statements as at and for the year ended 31 December 2021, which have been prepared in accordance with the International Financial Reporting Standards, have been reviewed by the Audit Committee.

### AUDITORS

Ernst & Young ("**Ernst & Young**") and BDO China Shu Lun Pan Certified Public Accountants LLP (Special General Partnership) ("**BDO**") were appointed as the Company's international and PRC auditors, respectively, for the year ended 31 December 2021. Considered and approved by the annual general meeting of 2018 convened on 11 June 2019, Ernst & Young has been the Company's international auditor since 2019. After the deliberation and approval of the first extraordinary general meeting of 2022 held on 21 January 2022, BDO was appointed as the Chinese auditor of the Company for the year ended 31 December 2021. For details, please refer to the announcement of the Company dated 4 January 2022 and the circular dated 5 January 2022.

### 退休及僱員福利計劃

本集團退休及僱員福利計劃詳情載於財務報表附註10(a)。

### 遵守企業管治常規守則

2021年，本公司已遵守上市規則附錄十四所載企業管治常規守則內的相關守則條文。詳情請參閱本報告的企業管治報告。

### 公眾持股量

根據本公司可公開獲得的資料，就董事所知，於本報告日期，公眾人士持有本公司已發行股本不少於21.6%，符合上市規則的規定。

### 重大訴訟及仲裁

截至2021年12月31日止年度，本公司並無涉及任何對本公司財務狀況、經營成果及業務存在重大不利影響的訴訟或仲裁。

### 審計委員會

本集團已根據上市規則的規定成立審計委員會 ("**審計委員會**")，職責包括就外聘獨立核數師的委任、重新委任及罷免向董事會提出建議，並監督他們的工作。審計委員會成員為楊志達先生(獨立非執行董事)、申曉留先生(獨立非執行董事)及張文建先生(非執行董事)。本公司的審計委員會已審閱本集團2021年之年度業績，及按《國際財務報告準則》編製的於2021年12月31日及截至該日止年度的財務報表。

### 核數師

本公司已分別委任安永會計師事務所 ("**安永**") 和立信會計師事務所(特殊普通合伙) ("**立信**") 為截至2021年12月31日止年度的國際和中國核數師。經2019年6月11日召開的2018年度股東週年大會審議通過，安永自2019年度開始擔任本公司國際核數師。經2022年1月21日召開的2022年度第一次臨時股東大會審議通過，由立信擔任本公司截至2021年12月31日止年度的中國核數師，詳見本公司2022年1月4日公告及2022年1月5日之通函。

## REPORT OF THE BOARD OF DIRECTORS (CONTINUED) 董事會報告(續)

The financial statements for the year ended 31 December 2021 of the Company have been prepared in accordance with the International Financial Reporting Standards, and have been audited by Ernst & Young.

By order of the Board of Directors

**Guodian Technology & Environment Group Corporation Limited**

*Chairman of the Board*

**Mr. CHEN Dongqing**

Beijing, China, 29 March 2022

安永已審計本公司按《國際財務報告準則》編製的截至2021年12月31日止年度的財務報表。

承董事會命

國電科技環保集團股份有限公司

董事長

陳冬青先生

中國·北京·2022年3月29日



# REPORT OF THE BOARD OF SUPERVISORS

## 監事會報告

In 2021, to protect the interests of the Shareholders and the Company, and in compliance with the applicable laws and regulations and the AOA, the Board of Supervisors effectively exercised its supervision authority over the meeting-convening and decision-making procedures of the Board of Directors. During the Reporting Year, the main responsibilities of the Board of Supervisors are as follows:

### 1. MEETINGS OF THE BOARD OF SUPERVISORS

Three meetings of the Board of Supervisors were convened in 2021:

- (1) On 17 April 2021, the first meeting of the fourth session of the Board of Supervisors for 2021 was convened to consider and approve the proposals on the 2020 annual report (draft), the 2020 annual results announcement (draft), the 2020 profit distribution plan, the 2021 financial budget report and the report of the Board of Supervisors.
- (2) On 25 May 2021, the second meeting of the fourth session of the Board of Supervisors for 2021 was convened to consider and approve the proposal on the nomination of shareholder representative supervisors for the fourth session of the Board of Supervisors of the Company.
- (3) On 27 August 2021, the third meeting of the fourth session of the Board of Supervisors for 2021 was convened to consider and approve the proposals on the 2021 interim report (draft) and the 2021 interim results announcement (draft), the 2021 interim financial statements and the 2021 interim profit distribution plan.

2021年，監事會為維護股東權益和公司利益，依照有關法律法規和《公司章程》的規定，對董事會的召開和決策過程有效行使其監管權。於本報告年度內，監事會的主要工作情況如下：

### 1. 監事會會議召開情況

2021年監事會共召開三次會議：

- (1) 2021年4月17日，召開第四屆監事會2021年第一次會議，審議通過了關於2020年報(審議稿)及2020年度業績公告(審議稿)、2020年度利潤分配方案、2021年度財務預算報告及監事會報告的議案。
- (2) 2021年5月25日，召開第四屆監事會2021年第二次會議，審議通過了關於提名公司第四屆監事會股東代表監事人選的議案。
- (3) 2021年8月27日，召開第四屆監事會2021年第三次會議，審議通過了關於2021年度中期報告(審議稿)及2021年度中期業績公告(審議稿)、2021年度中期財務報表及2021年中期利潤分配方案的議案。

## REPORT OF THE BOARD OF SUPERVISORS (CONTINUED) 監事會報告(續)

### 2. WORK UNDERTAKEN BY THE BOARD OF SUPERVISORS

In 2021, the Board of Supervisors mainly undertook the following work: during the Reporting Year, the Board of Supervisors duly reviewed the Company's operation and development plan and proposed reasonable suggestions and advice to the Board of Directors. To safeguard the interests of the Shareholders, the Board of Supervisors actively and effectively performed its supervision duties over significant decisions and detailed implementations by the Company's senior management to ensure to conform to relevant laws and regulations and the AOA.

The Board of Supervisors duly reviewed and approved the Report of the Board of Directors, the audited financial report and the profit distribution plan which were presented at the 2021 annual general meeting, and of the opinion that the members of the Board of Directors, general manager and other senior management of the Company strictly complied with the principles of integrity, performed their duties diligently, exercised their powers in the best interests of the Company and discharged their responsibilities in accordance with the AOA. Meanwhile, the Company's operations have been further standardized and its internal control system has been improved. The Company's connected transactions were in the interests of the Shareholders as a whole and were on fair and reasonable terms. The Board of Supervisors has not discovered any Director or Senior Management that had abused their power or any of their actions were prejudicial to the interests of the Company or the Shareholders, or violated the applicable laws and regulations or the AOA.

The Board of Supervisors is satisfied with the financial position and operational results of the Company in 2021. The Board of Supervisors is confident in the prospects of the Group.

### 2. 監事會工作開展情況

2021年度，監事會主要開展以下工作：在本報告年度內，監事會對本公司的經營及發展計劃進行充分審查，並向董事會提出合理的建議和意見。監事會積極且有效地履行監管職責，對本公司高級管理人員的重大決策及決策的具體實施情況實施監督，確保其符合國家法律法規以及《公司章程》的規定，維護股東利益。

監事會認真審閱並批准董事會報告，並審閱擬提呈予2021年度股東週年大會的經審核的財務報告以及利潤分配方案，認為本公司董事會成員、總經理及其他高級管理人員，嚴格遵守誠信原則，工作克勤盡職，以本公司最佳利益為出發點行使職權，能夠按照《公司章程》履行其各項職責。同時，公司的運作更為規範化，內部控制系統也相應改善。本公司關連交易均本著公平、合理的原則，從股東整體利益出發。監事會並無發現公司任何董事或者高級管理人員有濫用職權、損害本公司及股東合法利益以及違反有關法律、法規及《公司章程》規定的行為。

監事會對2021年度公司的財務狀況以及業績狀況表示認可，對本集團未來的發展前景充滿信心。

By Order of the Board of Supervisors  
**Guodian Technology & Environment Group Company Limited**  
*Chairman of the Board of Supervisors*  
**Mr. LUAN Baoxing**

Beijing, China, 29 March 2022

承監事會命  
國電科技環保集團股份有限公司  
監事會主席  
樂寶興先生

中國，北京，2022年3月29日

# CORPORATE GOVERNANCE REPORT

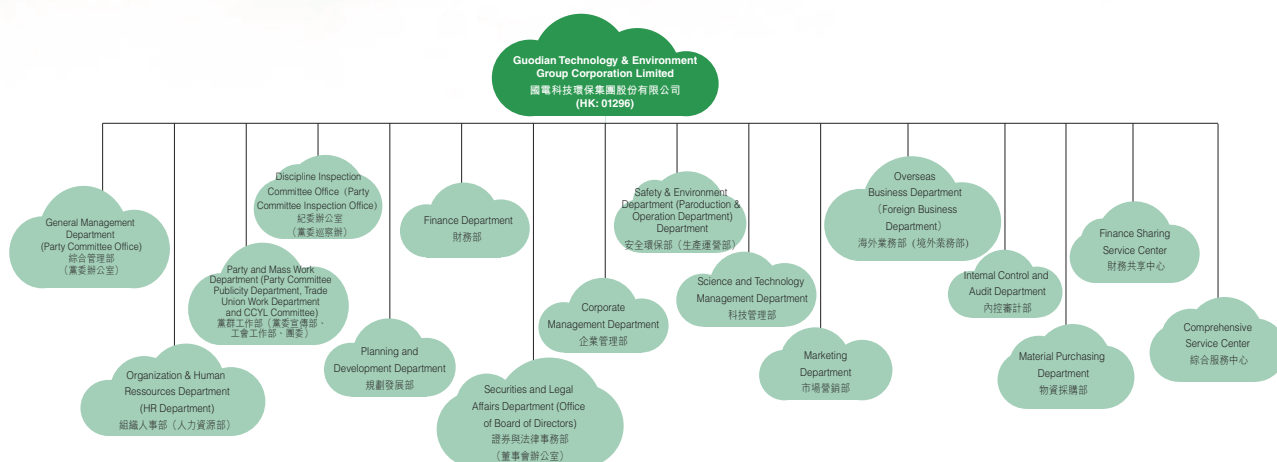
## 企業管治報告

The Board of Directors hereby presents to the Shareholders the corporate governance report for the Reporting Year.

董事會現向股東提呈截至2021年12月31日止的報告年度的企業管治報告。

The corporate governance framework of the Company is set out as follows:

本公司的企業管治框架如下：



## CORPORATE GOVERNANCE PRACTICES

Since its establishment, the Company has been committed to improving its corporate governance, which is considered essential to the creation of value for the Shareholders. The Company has established a modern corporate governance structure, which comprises a number of independently-operated and effectively-balanced bodies, including general meeting, the Board of Directors, the Board of Supervisors and the senior management, by referring to the Code on Corporate Governance Practices (“Code”) in Appendix 14 to the Listing Rules. The Company has also adopted the Code as its own corporate governance practice. In 2021, the Company strictly complied with the principles and provisions of the Code, and in some circumstances, adopted the best practices recommended by the Code.

The Company is dedicated to maintaining a high level of corporate governance. The Board of Directors has adopted various corporate policies and standards for application of proper governance principles in our usual business operations. In the course of our usual business operations, we comply with the applicable laws, rules and regulations of different countries and regions as part of our vigorous efforts to ensure a healthy and safe working environment for our employees, devote our utmost endeavor to safeguarding the interests of shareholders as a whole and place key focus on the sustainable development of the Company. In the Reporting Year, the Company adopted the principles under the Code and complied with all the code provisions thereunder.

## 企業管治常規

自成立以來，本公司始終致力於提升企業管治水平，視企業管治為實現為股東創造價值不可或缺的一部分。本公司參照上市規則附錄十四所載《企業管治守則》（「《守則》」），建立了由股東大會、董事會、監事會及高級管理層等獨立運作、有效制衡的現代公司治理架構。本公司亦採納《守則》作為本公司的企業管治常規。2021年度，本公司嚴格遵守《守則》所載的原則及條文，並在特定情形下採取《守則》建議的最佳常規。

本公司致力維持高水平之企業管治。本公司董事會已採納多項企業政策及準則，以於我們日常活動中應用良好之管治原則。在我們的日常營運中，我們遵守適用國家及地區之法律、規則及規例，致力確保員工擁有健康及安全之工作環境，並竭力保障股東之整體利益，把重點放在本公司的可持續發展上。於報告年度，本公司已採用守則之原則並遵守所有守則條文。



# CORPORATE GOVERNANCE REPORT (CONTINUED)

## 企業管治報告(續)

The corporate governance framework of the Company is set out as follows:

### 1. Board of Directors

The Board of Directors exercises its powers and functions in accordance with the provisions as set out in the AOA. In the best interests of the Company and the Shareholders, the Board of Directors reports to the general meetings, implements the resolutions passed thereon and is accountable to the general meetings.

#### 1.1 Composition of the Board of Directors

As of the date of the Annual Report, the Board of Directors had consisted of 11 Directors, including two executive Directors, five non-executive Directors and four independent non-executive Directors.

The biographical details of the Directors as of the date of the Annual Report are set out in the section headed "Directors, Supervisors and Senior Management" of the Annual Report. There are no relationships (including financial, business, family or other material or relevant relationships) among members of the Board of Directors. The structure of the Board of Directors is well balanced with each Director owning sound knowledge, experience and expertise on the business operations and development of the Group. All the Directors are well aware of their joint and several responsibilities to the Shareholders.

Since the listing of the Company, the Board of Directors has been in compliance with the requirements of the Listing Rules regarding the appointment of at least three independent non-executive Directors. The Board of Directors has also been in compliance with Rule 3.10A of the Listing Rules to appoint independent non-executive Directors representing at least one-third of the Board of Directors. Furthermore, the qualifications of all four independent non-executive Directors of the Company are in full compliance with the requirements under Rule 3.10(1) and (2) of the Listing Rules. In addition, the Company has received annual confirmations from all independent non-executive Directors as to their respective independence in accordance with Rule 3.13 of the Listing Rules. Therefore, the Company considers all independent non-executive Directors to be in compliance with the independence requirements as set out in the Listing Rules.

The Board of Directors' functions and responsibilities include: convening general meetings; reporting its work to the general meeting; implementing resolutions approved at general meetings; deciding on the Company's business plans and investment plans; formulating the Company's annual financial budget and final accounts; formulating the Company's profit distribution plans and proposals for the increase in

本公司所採用的企業管治常規概述如下：

### 1. 董事會

董事會按照《公司章程》的規定行使其權力及職責，以本公司及其股東的最大利益為原則，向股東大會報告工作，執行股東大會的決議，對股東大會負責。

#### 1.1 董事會的組成

截至本報告發佈日期止，董事會由11名董事組成，其中包括2名執行董事，5名非執行董事及4名獨立非執行董事。

董事於本年度報告日期的簡歷詳情載於本報告的「董事、監事及高級管理人員」一節。董事會各成員之間不存在任何關係(包括財務、業務、家族或其他重大或相關關係)。董事會結構平衡，每名董事均具備與本集團業務運營及發展有關的豐富知識、經驗及才能。所有董事深知其共同及個別對股東所負之責任。

自本公司上市以來，董事會一直符合上市規則有關委任至少三名獨立非執行董事的要求，且符合上市規則第3.10A條的規定，即所委任的獨立非執行董事必須佔董事會成員人數至少三分之一。本公司目前4名獨立非執行董事的資格完全符合上市規則第3.10(1)及(2)條的規定。此外，本公司已收到每名獨立非執行董事根據上市規則第3.13條就其各自的獨立性出具的年度確認書。因此，本公司認為所有獨立非執行董事均具備上市規則要求的獨立性。

董事會的職能及職責包括：召集股東大會；於股東大會上報告董事會的工作；執行股東大會通過的決議；決定本公司業務計劃及投資計劃；制定本公司年度預算及決算；制定本公司利潤分配方案及關於註冊資本增減的議案；以及行使《公司章程》所賦予的其

## CORPORATE GOVERNANCE REPORT (CONTINUED)

### 企業管治報告(續)

or reduction of the registered capital; and exercising other powers, functions and responsibilities as set out in the AOA. The Company has entered into a service contract or letter of appointment with each Director.

The Company firmly believes that the increasing diversity at the Board of Directors level is one of the essential elements in attaining the Company's strategic objectives and maintaining sustainable development; therefore, the Company has formulated the Board Member Diversity Policy. While determining the composition of the Board of Directors, the Company shall consider the diversity of the Board of Directors from various perspectives, including but not limited to gender, age, cultural and educational background, professional experience, skill, knowledge and service tenure. The final decisions are made based on the value of candidates and contributions they can bring to the Board of Directors. The appointment of the members of the Board of Directors shall be orientated by the need of the skill and experience of the Board of Directors for its overall normal operation, and based on the principle of selecting talented people, while fully considering the above-mentioned goals and requirements for diversity. The Nomination Committee will discuss any amendment to the Board Member Diversity Policy when necessary and propose such amendments to the Board of Directors pending its approval.

The current term of all the Directors of the Company will expire on 6 August 2023.

#### 1.2 Director's Continuous Training and Development

All newly appointed Directors are granted with necessary induction training and information so as to have an appropriate understanding of the operating status and business of the Company as well as their responsibilities under relevant laws and regulations and the AOA.

In compliance with the requirement of the Code A.6.5 of the Code and to ensure that the Directors' contribution to the Board of Directors remains informed and relevant, during the Reporting Year, the Company arranged and funded suitable training for all the Directors, for example, holding special training sessions covering topics including to explore the continuous obligation subject to the notifiable transactions under Chapter 14 of the Listing Rules, connected transactions under Chapter 14A of the Listing Rules and the issuer's continuing obligations under Chapter 13 of the Listing Rules.

他權力、職能及職責。本公司與每一位董事訂立了服務合約或委任函。

本公司堅信董事會層面日益多元化是支持其達到戰略目標及維持可持續發展的關鍵因素之一，因此本公司制定了《董事會成員多元化政策》，確定本公司在設定董事會成員構成時，應從多個方面考慮董事會成員多元化情況，包括但不限於性別、年齡、文化及教育背景、專業經驗、技能、知識及服務任期。最終將按人選的價值及可為董事會作出的貢獻而作決定。董事會成員的委任以董事會整體良好運作所需的技能和經驗為本，以選用有才能的人士為原則，同時充分考慮上述董事會成員多元化的目標和要求。提名委員會也將於有必要時討論任何修訂，再將有關修訂提呈董事會供其批准。

本公司所有董事的本屆任期將於2023年8月6日屆滿。

#### 1.2 董事的持續培訓及發展

所有新委任的董事均獲提供必要的入職培訓及資料，確保其對本公司的營運及業務以及其於相關法律法規及公司章程下對彼等的責任有適當程度的了解。

遵照《守則》第A.6.5條的規定，並為確保董事在具備全面信息及切合所需的情況下對董事會作出貢獻，在報告年度裡，本公司為所有董事安排了合適的培訓並提供有關經費，例如舉辦特別的培訓會議，就上市規則第14章規定的須予公佈的交易、上市規則第14A章規定的關連交易以及發行人在上市規則第13章下持續責任進行探討。

## CORPORATE GOVERNANCE REPORT (CONTINUED) 企業管治報告(續)

Besides the training provided by the Company, the Directors have also developed their professional skills through various ways including attending different forums, seminars and public lectures.

During the Reporting Year, all the Directors had participated in continuous professional development to develop and refresh their knowledge and skills as required by Article A.6.5 of the Code, in order to ensure that the Directors' contribution to the Board of Directors remains informed and relevant. According to the record of the Board of Directors, the summary of the training received by the Directors for the year ended 31 December 2021 is as follows:

除接受本公司提供的培訓外，董事還通過各種途徑積極提高其專業技能，包括參加各類論壇、研討會以及公開講座。

於報告年度，本公司的所有董事均已按照《守則》第A.6.5條的要求參與持續專業發展，發展並更新其知識及技能，以確保其繼續在具備全面諮詢及切合所需的情況下對董事會作出貢獻。根據董事會記錄，截至2021年12月31日止年度董事接受培訓的概要如下：

Name 姓名	Types of Continuous Professional Development Programmes 持續專業發展計劃類別
<b>Executive Directors</b> <b>執行董事</b>	
Mr. CHEN Dongqing 陳冬青先生	A, B
Mr. LI Caiyun 李彩雲先生	A, B
<b>Non-executive Directors</b> <b>非執行董事</b>	
Mr. SONG Chang 宋 暢先生	A, B
Mr. JIANG Jianwu 江建武先生	A, B
Mr. ZHANG Wenjian 張文建先生	A, B
Mr. GU Yuchun 顧玉春先生	A, B
Ms. GE Xiaojing 葛曉菁女士	A, B
<b>Independent Non-executive Directors</b> <b>獨立非執行董事</b>	
Mr. SHEN Xiaoliu 申曉留先生	A, B
Mr. QU Jiuhui 曲久輝先生	A
Mr. XIE Qiuye 謝秋野先生	A, B
Mr. YEUNG Chi Tat 楊志達先生	A, B

A: Read the latest materials for seminars and updates in relation to the Listing Rules and other regulatory requirements

A: 閱讀有關上市規則及其他適用監管規定最新修訂的研討會材料與更新資料

B: Attending the briefing and/or seminars

B: 出席簡介會及／或研討會

# CORPORATE GOVERNANCE REPORT (CONTINUED)

## 企業管治報告(續)

### 1.3 Board Meetings

Pursuant to the AOA, the Board of Directors is required to hold at least four Board meetings each year, which shall be convened by the chairman of the Board of Directors. A notice of at least 14 days shall be given for the regular Board meeting. The notice must state the time, venue and means by which the Board meeting will be convened. This frees up time for the Directors to attend the meeting, and the ample pre-meeting time allows directors to familiarize themselves with the content of the meeting and the matters to be decided, as well as the opportunity to request the addition of relevant items to the agenda.

Except for the Board of Directors' consideration of matters in relation to connected transactions as set forth in the AOA, the Board meeting should be convened with the present parties of a majority of Directors. A Director may attend the Board meeting in person, or appoint another Director in writing as his/her proxy to attend the meeting. The secretary to the Board of Directors is responsible for preparing and keeping the minutes of the Board meetings and ensuring that such records are available for inspection by any Director.

In 2021, the Board of Directors held a total of 18 Board meetings, seven of which included the proposals that the related Directors (Mr. WANG Zhongqu, Mr. ZHANG Wenjian, Mr. SONG Chang and Mr. GU Yuchun) who need to abstain from voting. And the Board of Directors convened four general meetings in total. For the year ended 31 December 2021, the directors of the Company whose attendance at the Board meetings and the general meetings is as follows:

### 1.3 董事會會議

根據《公司章程》的規定，董事會每年至少召開四次會議，董事會會議由董事長召集。定期董事會會議應於召開前至少14天發出通知，通知須列明會議召開的時間、地點以及方式。以使董事能有機會出席會議、於召開前有充裕的時間熟悉會議內容和決策事項，並有機會申請於會議議程中增加有關審議事項。

除《公司章程》所規定董事會審議關連交易事項的情況外，董事會會議應由大多數董事出席方可舉行。董事可以親自參加董事會會議，亦可以書面委託其他董事作為其受委代表為出席董事會會議。本公司董事會秘書負責編製和保管董事會會議記錄，並確保董事能夠查閱該等記錄。

於2021年度，董事會共舉行了十八次董事會會議，其中有七次董事會會議包含關連董事(即王忠渠先生、張文建先生、宋暢先生及顧玉春先生)需迴避表決的議案。此外，董事會共召集了四次股東大會。截至2021年12月31日止年度，董事出席董事會會議及股東大會情況如下：

Name	Position in the Company	Number of Board Meetings Attended/ Entitled to attend	Attendance Rate%	Number of General Meetings Attended/ Entitled to attend*	Attendance Rate%
姓名	本公司職位	出席/有權出席董事會會議次數	出席率%	出席/有權出席股東大會會議次數*	出席率%
Mr. CHEN Dongqing	Executive Director and Chairman of the Board of Directors	18/18	100	4/4	100
陳冬青先生	執行董事兼董事長				
Mr. ZHANG Jun <sup>(1)</sup>	Executive Director	7/7	100	0/0	0
張軍先生 <sup>(1)</sup>	執行董事				
Mr. TANG Chaoxiong <sup>(2)</sup>	Executive Director	6/6	100	0/0	0
唐超雄先生 <sup>(2)</sup>	執行董事				
Mr. LI Caiyun <sup>(3)</sup>	Executive Director	5/5	100	1/1	100
李彩雲先生 <sup>(3)</sup>	執行董事				
Mr. WANG Zhongqu <sup>(4)</sup>	Non-executive Director	13/13	100	1/3	33
王忠渠先生 <sup>(4)</sup>	非執行董事				
Mr. SONG Chang <sup>(5)</sup>	Non-executive Director	9/9	100	1/3	33
宋暢先生 <sup>(5)</sup>	非執行董事				
Mr. JIANG Jianwu <sup>(6)</sup>	Non-executive Director	1/1	100	0/0	0
江建武先生 <sup>(6)</sup>	非執行董事				
Mr. ZHANG Wenjian	Non-executive Director	18/18	100	1/4	25
張文建先生	非執行董事				
Mr. GU Yuchun	Non-executive Director	18/18	100	1/4	25
顧玉春先生	非執行董事				
Ms. GE Xiaojing	Non-executive Director	18/18	100	1/4	25
葛曉菁女士	非執行董事				

## CORPORATE GOVERNANCE REPORT (CONTINUED) 企業管治報告(續)

Name 姓名	Position in the Company 本公司職位	Number of Board Meetings Attended/ Entitled to attend 出席/有權出席董事會 會議次數	Attendance Rate% 出席率%	Number of General Meetings Attended/ Entitled to attend* 出席/有權出席股東 大會會議次數*	Attendance Rate% 出席率%
Mr. SHEN Xiaoliu 申曉留先生	Independent Non-executive Director 獨立非執行董事	18/18	100	4/4	100
Mr. QU Jiuhui 曲久輝先生	Independent Non-executive Director 獨立非執行董事	18/18	100	1/4	25
Mr. XIE Qiuye 謝秋野先生	Independent Non-executive Director 獨立非執行董事	18/18	100	1/4	25
Mr. YEUNG Chi Tat 楊志達先生	Independent Non-executive Director 獨立非執行董事	18/18	100	4/4	100

\* The non-executive Directors and independent non-executive Directors who were unable to attend the general meeting(s) had been informed of the contents of the general meetings through electronic communication or teleconference.

\* 未能現場或電子通訊方式出席股東大會的非執行董事及獨立非執行董事均知悉股東大會內容。

*Notes:*

*註:*

- (1) Due to work re-designation, Mr. ZHANG Jun resigned as an executive Director, a member of the Strategic Committee and the general manager with effect from 2 June 2021.
- (2) Due to work re-arrangement, Mr. TANG Chaoxiong resigned as an executive Director, a member of the Nomination Committee, the vice general manager and the chief accountant 23 April 2021.
- (3) Mr. LI Caiyun was appointed as the general manager on 30 June 2021 and an executive Director at the second extraordinary general meeting of the Company for the year 2021 held on 19 October 2021 until the expiration of the term of the fourth session of the Board of Directors. Subsequently, Mr. LI was appointed as a member of the Strategic Committee at the seventeenth Board meeting of the fourth session of the Board of Directors for 2021.
- (4) Due to his retirement, Mr. WANG Zhongqu resigned as a non-executive Director and a member of the Remuneration and Appraisal Committee with effect from 20 October 2021.
- (5) Mr. SONG Chang was appointed as a non-executive Director at the annual general meeting of the Company for the year 2020 held on 30 June 2021 until the expiration of the term of the fourth session of the Board of Directors. Subsequently, Mr. SONG was appointed as a member of the Remuneration and Appraisal Committee at the seventeenth Board meeting of the fourth session of the Board of Directors for 2021.
- (6) Mr. JIANG Jianwu was appointed as a non-executive Director and a member of the Nomination Committee at the third extraordinary general meeting of the Company for the year 2021 held on 28 December 2021 until the expiration of the term of the fourth session of the Board of Directors.

- (1) 張軍先生因工作調動，辭任執行董事、戰略委員會成員及總經理職務，自2021年6月2日起生效。
- (2) 唐超雄先生因工作調動，辭任執行董事、提名委員會成員、副總經理及總會計師職務，自2021年4月23日起生效。
- (3) 李彩雲先生於2021年6月30日被委任為本公司總經理及於本公司2021年10月19日召開的2021年第二次臨時股東大會上獲選舉執行董事及總經理任期至第四屆董事會任期屆滿。其後，李先生於2021年12月6日召開的第四屆董事會2021年第十七次會議上被選舉為董事會戰略委員會委員。
- (4) 王忠渠因達到退休年齡，辭任非執行董事及薪酬與考核委員會成員職務，自2021年10月20日起生效。
- (5) 宋暢先生於本公司2021年6月30日召開的2020年股東週年大會上獲選舉為非執行董事，任期至第四屆董事會任期屆滿。其後，宋先生於2021年12月6日召開的第四屆董事會2021年第十七次會議上被選舉為董事會薪酬與考核委員會委員。
- (6) 江建武先生於本公司2021年12月28日召開的2021年第三次臨時股東大會上獲選舉為非執行董事及提名委員會委員，任期至第四屆董事會任期屆滿。

## CORPORATE GOVERNANCE REPORT (CONTINUED)

### 企業管治報告(續)

#### 1.4 Powers Exercised by the Board of Directors and the Management

The Company performs the following corporate governance duties:

- (1) To formulate and review the corporate governance policies and practices of the Company and make recommendations to the Board of Directors;
- (2) To review and monitor the training and continuing professional development of directors, supervisors and senior management;
- (3) To review and monitor the Company's policies and practices in compliance with legal and regulatory requirements;
- (4) To formulate, review and monitor the details of the work of directors, supervisors and employees, etc.; and
- (5) To review the compliance of the Code and disclosure in corporate governance reports.

The powers and duties of the Board of Directors and the management have been clearly defined in the AOA so as to ensure that adequate check-and-balance is in place for the purpose of maintaining effective corporate governance and internal control.

#### 1.4 由董事會和管理層行使的權力

本公司履行以下企業管治職責：

- (1) 制定及檢討本公司的企業管治政策及常規，並向董事會提出建議；
- (2) 檢討及監察董事、監事及高級管理人員的培訓及持續專業發展；
- (3) 檢討及監察本公司在遵守法律及監管規定方面的政策及常規；
- (4) 制定、檢討及監察董事、監事及僱員的工作細則等；及
- (5) 檢討本公司遵守守則的情況及在企業管治報告內的披露。

董事會和管理層的權力和職責已在《公司章程》中進行了明確規定，以確保為保持有效的公司管治和內部控制提供充分的平衡和制約機制。

## CORPORATE GOVERNANCE REPORT (CONTINUED) 企業管治報告(續)

The Board of Directors is responsible for making decisions on the Company's business and investment plans, determining the establishment of the Company's internal management structure, issuing the Company's essential administration regulations, resolving and approving other material business and administrative matters of the Company and supervising the performance of the management.

Led by the General Manager (and also an executive Director), the management of the Company is responsible for implementing the resolutions passed by the Board of Directors and managing the Company's day-to-day operations.

### 1.5 Chairman and General Manager

The posts of the chairman of the Board of Directors and the General Manager of the Company (i.e. chief executive officer pursuant to the Listing Rules) are separated and convened by different persons in order to ensure the independence of their respective responsibilities, and the balance of power and authority between them. Mr. CHEN Dongqing acts as the chairman of the Board of Directors and Mr. LI Caiyun acts as the General Manager. The Rules of Procedures of the Board Meeting and the Working Rules of the General Manager, as considered and approved by the Board of Directors, clearly define the division of duties between the chairman of the Board of Directors and the General Manager.

Mr. CHEN Dongqing, the Chairman of the Board of Directors, is responsible for leading the Board of Directors in determining the overall development strategies of the Company and ensuring that the Board of Directors effectively performs its duties and discusses significant and appropriate matters in a timely manner, ensuring that the Company establishes effective corporate governance practices and procedures and the Board of Directors acts in the best interest of the Company and the Shareholders. Mr. LI Caiyun, the General Manager of the Company, is mainly responsible for the Company's day-to-day operations, including implementing the Board's resolutions and making day-to-day decisions.

### 1.6 Appointment and Re-election of Directors

Pursuant to the AOA, the Directors, including the non-executive Directors, shall be elected at the general meetings with a term of office for no more than three years and may be re-elected and re-appointed.

The Company has established a set of procedures for appointing new Directors. The nomination of new Directors shall first be considered by the Nomination Committee, whose recommendations will then be presented to the Board of Directors for consideration. All newly nominated Directors are subject to election and approval at general meetings.

董事會負責決定本公司的經營計劃和投資方案，決定本公司內部管理機構的設置，頒佈本公司必要的管理制度，對本公司的其他重大業務和行政事項做出決議並對管理層的履職進行監督。

本公司管理層在總經理(同時亦為執行董事)的領導下，負責執行董事會批准的各項決議，並管理本公司的日常經營。

### 1.5 董事長及總經理

本公司董事長和總經理(即上市規則條文下之行政總裁)職務分別由不同人士擔任，以確保各自職責的獨立性以及權力和授權的分佈平衡。董事長由陳冬青先生擔任，總經理由李彩雲先生擔任。董事會審議通過的《董事會議事規則》和《總經理工作細則》，分別對董事長和總經理的職責分工進行了明確清楚的界定。

董事長陳冬青先生負責領導董事會確定本公司的整體發展戰略，確保董事會有效履行其職責，並及時就所有重要的適事項進行討論，確保本公司得以制定有效的企業管治常規及程序，並確保董事會行事符合本公司及全體股東的最佳利益。總經理李彩雲先生主要負責本公司的日常運營，包括實施董事會決議及進行日常決策等。

### 1.6 委任及重選董事

根據《公司章程》的規定，董事(包括非執行董事)由股東大會選舉產生，每屆任期不得超過三年，可連選連任。

本公司已就新董事的委任建立了一套有效的程序。新董事的提名事宜先由提名委員會商議，然後再向董事會提交以供審議，並由股東大會選舉通過。

## CORPORATE GOVERNANCE REPORT (CONTINUED)

### 企業管治報告(續)

In compliance with relevant laws and regulations and the AOA, except for the service contract entered into by Mr. LI Caiyun, an executive Director, with the Company on 19 October 2021, each of the executive Directors has entered into a service contract with the Company on 7 August 2020; except for the letter of appointment entered into by Mr. SONG Chang, a non-executive Director, with the Company on 30 June 2021, and Mr. JIANG Jianwu, a non-executive Director, with the Company on 28 December 2021 and the letter of appointment entered into by each of the non-executive Directors and the independent non-executive Directors has entered into a letter of appointment with the Company on 7 August 2020. Each service contract/letter of appointment is valid from the date of signing until 6 August 2023, with a one-year automatic renewal clause.

#### 1.7 Directors' Remuneration

The Remuneration and Appraisal Committee makes recommendations in relation to the Directors' remuneration by taking into consideration factors such as educational background, work experience, etc.. The Board of Directors determines the Directors' remuneration by considering the Directors' experiences, work performances, positions and market conditions after the approval of the general meeting.

## 2. Board Committees

There are four Board committees ("Committees"), namely, the Audit Committee, the Remuneration and Appraisal Committee, the Nomination Committee and the Strategic Committee.

The appointment of the chairman and members of the Specialized Committees of the fourth session of the Board of Directors was decided at the First Meeting of the fourth session of the Board of Directors 2020, held on 7 August 2020, and at the Seventeenth Meeting of the fourth session of the Board of Directors, held on 6 December 2021.

根據相關法律法規及公司章程，除執行董事李彩雲先生於2021年10月19日與本公司訂立的服務協議外，本公司各執行董事已於2020年8月7日與本公司訂立董事服務協議；及除非執行董事宋暢先生於2021年6月30日與本公司訂立委任函，及非執行董事江建武先生於2021年12月28日與本公司訂立委任函以外，本公司各非執行董事及獨立非執行董事已於2020年8月7日與本公司訂立委任函。服務協議／委任函各自有效期自簽署日期起至2023年8月6日，並包含自動延期一年的條款。

#### 1.7 董事薪酬

董事薪酬根據專業背景及工作經驗等因素，由薪酬與考核委員會提出建議，經股東大會批准由董事會根據董事經驗、工作表現、職務及市場確定。

## 2. 董事會轄下委員會

董事會下設四個委員會(「委員會」)，包括審計委員會、薪酬與考核委員會、提名委員會和戰略委員會。

於2020年8月7日召開的第四屆董事會2020年第一次會議決議，及於2021年12月6日召開的第四屆董事會2021年第十七次會議決議委任第四屆董事會專門委員會主席及成員。



## CORPORATE GOVERNANCE REPORT (CONTINUED) 企業管治報告(續)

### 2.1 Audit Committee

The Audit Committee consists of three Directors: Mr. YEUNG Chi Tat (independent non-executive Director), Mr. SHEN Xiaoliu (independent non-executive Director) and Mr. ZHANG Wenjian (non-executive Director). Mr. YEUNG Chi Tat serves as the chairman of the Audit Committee. The primary responsibilities of the Audit Committee are to review and supervise the Company's financial reporting procedures, including:

- Making proposals in respect of the appointment, re-appointment or change of the external auditors to the Board of Directors, approving the remuneration and terms of engagement of external auditors, and handling any issues related to the resignation or dismissal of external auditors;
- Evaluating and examining the independence and objectivity of the external auditors and the effectiveness of the auditing procedures in accordance with the relevant standards;
- Monitoring completeness, accuracy and impartiality of the financial statements of the Company and the Company's accounts, annual reports and interim reports and reviewing significant financial reporting opinions contained in them;
- Reviewing the Company's financial control, internal control and risk management systems; and
- Taking necessary measures to ensure that employees have a channel to raise concerns in an anonymous manner about any possible improprieties in financial reporting, internal control or other matters.

During the Reporting Year, third session two meetings in total, with details as follows:

- The first meeting of the Audit Committee of the fourth session of the Board of Directors in 2021 was convened on 19 March 2021 to consider and approve (1) the proposal on the Company's draft 2020 annual results announcement ; (2) the proposal on the Company's draft 2020 annual report; and (3) the proposal on the appointment of the Company's foreign auditor for 2021.

### 2.1 審計委員會

審計委員會由三名董事組成，他們分別是：楊志達先生(獨立非執行董事)、申曉留先生(獨立非執行董事)及張文建先生(非執行董事)。楊志達先生為審計委員會主席。審計委員會的主要職責為審計及監督公司的財務申報程序，包括：

- 就董事會外聘核數師的任命、重新任命或變更提出議案，審批外聘核數師的薪酬與僱傭條款，並處理與外聘核數師辭職或解僱相關的任何問題；
- 根據相關標準評估及審查外聘核數師的獨立性及客觀性和審計程序的有效性；
- 監察本公司財務報表、本公司賬目、年度報告和中期報告的完整性、準確性和公正性，並審查其中重要的財務報告意見；
- 審查本公司的財務控制、內部控制和風險管理系統；及
- 採取必要措施，確保員工能夠以匿名的方式對財務報告、內部控制或其他事項中的任何不當行為提出質疑。

在報告年度，審計委員會共召開了兩次會議，每次會議的詳細情況如下：

- 於2021年3月19日召開了第四屆董事會審計委員會2021年第一次會議，審議並通過(1)關於本公司2020年度業績公告(審議稿)的議案；(2)關於本公司2020年報(審議稿)的議案；及(3)關於聘任公司2021年度境外審計機構的議案。

## CORPORATE GOVERNANCE REPORT (CONTINUED)

### 企業管治報告(續)

- On 20 August 2021, the second meeting of the Audit Committee of the fourth session of the Board of Directors in 2021 was convened, whereby (1) the proposal regarding the draft 2021 interim report of the Company; and (2) the proposal regarding the draft 2021 interim results announcement of the Company were considered and approved.

All the members of the Audit Committee attended the above meetings.

#### 2.2 Remuneration and Appraisal Committee

The Remuneration and Appraisal Committee consists of three Directors: Mr. QU Jiuhui (independent non-executive Director), Mr. XIE Qiuye (independent non-executive Director) and Mr. SONG Chang (non-executive Director). Mr. QU Jiuhui is the chairman of the Remuneration and Approval Committee of the Company. The primary responsibilities of the Remuneration and Appraisal Committee are to formulate the standards concerning the assessment of the directors and the senior management, assess their performance and determine and review the remuneration policies and plans concerning the directors and the senior management, including:

- Discussing the assessment standards, performance evaluation procedures and remuneration and rewards and punishments of Directors and senior management and submitting the same to the Board of Directors for approval;
- Assessing the duty performance of Directors and senior management of the Company and conducting performance evaluation for them;
- Supervising the implementation of the Company's remuneration system; and
- Obtaining the authorization granted by the Board of Directors to consider and determine the specific remuneration package of all the executive Directors and senior management, including non-pecuniary benefits, pension rights and amounts of compensation (including compensation arising from loss or termination of office or appointment) and make recommendations to the Board of Directors on the remuneration of non-executive Directors. The factors to be considered by the Remuneration and Appraisal Committee include the remuneration paid by companies of same kinds, the time devoted by the Directors and the duties of the Directors, the terms of employment of other positions in the Company and whether the remuneration should be determined by performance.

- 於2021年8月20日召開了第四屆董事會審計委員會2021年第二次會議，審議並通過(1)關於本公司2021年中期報告(審議稿)的議案；及(2)關於本公司2021年中期業績公告(審議稿)的議案。

審計委員會全體委員均出席了上述會議。

#### 2.2 薪酬與考核委員會

薪酬與考核委員會由三名董事組成，他們分別是：曲久輝先生(獨立非執行董事)、謝秋野先生(獨立非執行董事)及宋暢先生(非執行董事)。曲久輝先生為本公司薪酬與考核委員會主席。薪酬與考核委員會的主要職責為制定評估董事及高級管理人員的標準及對彼等的表現進行評估；釐定、審閱董事及高級管理層相關的薪酬政策及計劃，其中包括：

- 研究董事與高級管理人員考核的標準、績效評價程序和薪酬及獎懲辦法，提交董事會批准；
- 評審公司董事和高級管理人員的履職情況並對其進行績效考核評價；
- 對公司薪酬制度執行情況進行監督；及
- 獲得董事會授權，考量確定全體執行董事及高級管理人員的特定薪酬待遇，包括非金錢利益、退休金權利及賠償金額(包括喪失或終止職務或委任的賠償)，並就非執行董事的薪酬向董事會提出建議。薪酬與考核委員會應考慮的因素包括同類公司支付的薪酬、董事須付出的時間及董事職責、公司內其他職位的僱用條件及是否應該按表現釐定薪酬等。

## CORPORATE GOVERNANCE REPORT (CONTINUED) 企業管治報告(續)

During the Reporting Year, the Remuneration and Appraisal Committee convened two meetings in total, with details as follows:

- On 12 March 2021, the first meeting of the Remuneration and Appraisal Committee of the fourth session of the Board of Directors in 2021 was convened, whereby the proposal regarding the remuneration of Directors, Supervisors and senior management of the Company for 2021 was considered and approved.
- On 28 June 2021, the second meeting of the Remuneration and Appraisal Committee of the fourth session of the Board of Directors in 2021 was convened, whereby the proposal regarding the remuneration of the senior management of the Company for 2021 was considered and approved.

All the members of the Remuneration and Appraisal Committee attended the above meetings.

### 2.3 Nomination Committee

The Nomination Committee consists of three Directors: Mr. XIE Qiuye (independent non-executive Director), Mr. QU Jiuwei (independent non-executive Director) and Mr. JIANG Jianwu (non-executive Director). Mr. XIE Qiuye serves as the chairman of the Nomination Committee. The primary responsibilities of the Company's Nomination Committee are to formulate the procedures and standards for nominating candidates as Directors and senior management, and conduct preliminary review of the qualifications and other credentials of the candidates for Directors and senior management. In addition, according to the Board Member Diversity Policy ("Policy"), the Nomination Committee is responsible of supervising execution of the Policy. The appointment of the members of the Board of Directors shall be orientated by the need of skill and experience of the Board of Directors for its overall normal operation, and based on the principle of selecting talented people, while fully considering the above-mentioned goals and requirements for diversity. The Nomination Committee will also discuss any possible amendments and propose the amendments to the Board of Directors for its review and approval, so as to ensure the effectiveness. The Nomination Committee is of the opinion that the composition of the Board of Directors during the Reporting Year conformed to the requirements of the Policy.

During the Reporting Year, the Nomination Committee convened four meetings in total, with details as follows:

- The first meeting of the Nomination Committee of the fourth session of the Board of Directors in 2021 was convened on 21 May 2021 to consider and approve the proposal on the nomination of non-executive Director of fourth session of the Board of Directors.

在報告年度，薪酬與考核委員會共召開了兩次會議，會議的詳細情況如下：

- 於2021年3月12日召開了第四屆董事會薪酬與考核委員會2021年第一次會議，審議並通過了公司董事、監事及高級管理人員2021年度薪酬方案的議案。
- 於2021年6月28日召開了第四屆董事會薪酬與考核委員會2021年第二次會議，審議並通過了關於修訂公司高級管理人員2021年度薪酬方案的議案。

薪酬與考核委員會全體委員均出席了上述會議。

### 2.3 提名委員會

提名委員會由三名董事組成，他們分別是：謝秋野先生(獨立非執行董事)、曲久輝先生(獨立非執行董事)及江建武先生(非執行董事)。謝秋野先生為提名委員會主席。本公司提名委員會的主要職責為制定董事及高級管理人員人選的提名程序及標準、對董事及高級管理人員人選的資格及其他資歷進行初步審閱。此外，根據《董事會成員多元化政策》(「該政策」)，提名委員會負責監察該政策的執行。董事會成員的委任以董事會整體良好運作所需的技能和經驗為本，以選用有才能的人士為原則，同時充分考慮上述董事會成員多元化的目標和要求。提名委員會亦會討論任何需要做出的修訂並提呈予董事會供其審批，以確保行之有效。提名委員會認為於報告年度的董事會成員組成符合該政策的要求。

在報告年度，提名委員會共召開了四次會議，會議的詳細情況如下：

- 於2021年5月21日召開了第四屆董事會提名委員會2021年第一次會議，審議並通過了關於提名公司第四屆董事會非執行董事人選的議案。

## CORPORATE GOVERNANCE REPORT (CONTINUED)

### 企業管治報告(續)

- The second meeting of the Nomination Committee of the fourth session of the Board of Directors in 2021 was convened on 29 June 2021 to consider and approve the proposal on the nomination of the General Manager, the executive Director of fourth session of the Board of Directors and the chief accountant of the Company.
- The third meeting of the Nomination Committee of the fourth session of the Board of Directors in 2021 was convened on 15 November 2021 to consider and approve the proposal on the nomination of secretary to the Board of Directors and general legal counsel of the Company.
- The fourth meeting of the Nomination Committee of the fourth session of the Board of Directors in 2021 was convened on 1 December 2021 to consider and approve the proposal on the nomination of non-executive Director of fourth session of the Board of Directors.

All the members of the Nomination Committee attended the above meetings.

#### 2.4 Strategic Committee

The Strategic Committee consists of five Directors: Mr. CHEN Dongqing (executive Director and chairman), Mr. SHEN Xiaoliu (independent non-executive Director), Mr. GU Yuchun (non-executive Director), Ms. GE Xiaojing (non-executive Director) and Mr. LI Caiyun (executive Director and General Manager). Mr. CHEN Dongqing serves as the chairman of the Strategic Committee. The primary responsibilities of the Strategic Committee are to formulate the Company's overall development plans and investment decision-making procedures, and promote the Company's rule-of-law construction, including:

- Reviewing the Company's long-term development strategies;
- Reviewing the Company's strategic plans and implementation reports;
- Reviewing significant capital expenditure, investment and financing projects subject to the approval of the Board of Directors;
- Authorizing the management meeting of the Company to formulate specific plans, negotiate and implement relevant review and approval procedures, execute contracts and relevant documents, and handle relevant procedures for the above matters; and

- 於2021年6月29日召開了第四屆董事會提名委員會2021年第二次會議，審議並通過了關於提名公司總經理的議案、關於提名公司第四屆董事會執行董事人選的議案，及關於提名公司總會計師的議案。
- 於2021年11月15日召開了第四屆董事會提名委員會2021年第三次會議，審議並通過了關於提名公司董事會秘書及總法律顧問的議案。
- 於2021年12月1日召開了第四屆董事會提名委員會2021年第四次會議，審議並通過了關於提名公司第四屆董事會非執行董事人選的議案。

提名委員會全體委員均出席了上述會議。

#### 2.4 戰略委員會

本公司的戰略委員會由五名董事組成，他們分別是：陳冬青先生(執行董事兼董事長)、申曉留先生(獨立非執行董事)、顧玉春先生(非執行董事)、葛曉菁女士(非執行董事)和李彩雲先生(執行董事兼總經理)。陳冬青先生為戰略委員會主席。戰略委員會的主要職責為制定本公司的整體發展計劃及投資決策程序、推進公司法治建設，包括：

- 審閱本公司的長遠發展戰略；
- 審閱本公司的戰略規劃及實施報告；
- 審閱須董事會批准的重大資本支出、投資及融資項目；
- 授權本公司辦公會對上述各項制定具體方案、協商並實施相關審批程序、簽署合約及相關文件、辦理相關手續等；及

## CORPORATE GOVERNANCE REPORT (CONTINUED) 企業管治報告(續)

- Studying the overall plan of rule-of-law construction of the Company, bringing forward suggestions thereof, and monitoring the implementation thereof.

During the Reporting Year, the Strategic Committee convened two meeting in total, with details as follows:

- The First Meeting of the Strategic Committee of the Fourth Board of Directors was held on 9 February 2021. The meeting considered and passed the motion on the establishment of Guoneng Technology & Environment New Energy Co., Ltd. and the motion on Longyuan Environmental to cooperate with Xinjiang Energy in the preparation of a joint venture by way of equity participation.
- The Second Meeting of the Strategic Committee of the Fourth Board of Directors was held on 10 June 2021. The meeting considered and passed the motion on the restructuring of United Power, which is owned by the Company and the motion on the property rights transaction and the implementation of the equity incentive program of Guoneng I&C

All the members of the Strategic Committee attended the above meeting.

- 對本公司法治建設總體規劃進行研究並提出建議，並對其實施進行監控。

在報告年度，戰略委員會共召開了兩次會議，會議的詳細情況如下：

- 於2021年2月9日召開第四屆董事會戰略委員會2021年第一次會議，會議審議並通過了關於成立國能科環新能源有限責任公司的議案，及關於龍源環保以參股方式配合國家能源集團新疆能源有限公司籌建合資公司的議案。
- 於2021年6月10日召開第四屆董事會戰略委員會2021年第二次會議，會議審議並通過了關於科環集團所屬聯合動力重組的議案，及關於公司所屬國能信控互聯技術有限公司進行產權交易及實施股權激勵方案的議案。

戰略委員會全體委員均出席了上述會議。

### 3. Director's Responsibility for the Financial Statements

The Board of Directors acknowledges its responsibility for preparing the Financial Statements of the Group for the year ended 31 December 2021.

The Board of Directors is responsible for preparing a comprehensible assessment report of the financial statements for the year 2021 and such other matters as are required to be disclosed under the Listing Rules and other regulatory provisions. Management has submitted to the Board of Directors the explanations and data necessary to ensure that the Board is enabled to make an informed assessment of the financial information and the position of the Group. The Directors may seek independent professional advice in the performance of their duties at the Company's expense.

There are no material uncertainties relating to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern.

In addition, appropriate insurance coverage for Directors' liabilities has been arranged against potential legal proceedings to be taken against the Directors.

### 3. 董事對財務報表承擔的責任

董事會已確認其承擔編製本集團截至2021年12月31日止年度財務報表的責任。

董事會負責就2021年度的財務報表以及根據上市規則和其他監管條文規定需要進行披露的其他事宜制定一份清晰易懂的評估報告。管理層已經向董事會提交了必要的解釋和數據，確保董事會能夠就財務信息和集團的地位作出有根據的評估。董事於履行其職責時可尋求獨立專業意見，費用由本公司承擔。

本公司並無面臨可能對本公司持續經營業務之能力產生重大疑慮的事件或情況。

另外，董事可能面對的法律訴訟方面，本公司已為其可能招致的責任作出適當的投保安排。

## CORPORATE GOVERNANCE REPORT (CONTINUED)

### 企業管治報告(續)

#### 4. Compliance with the Model Code for Securities Transactions

The Company has adopted the Model Code for Securities Transactions by Directors of Listed Issuers (“Model Code”) set out in Appendix 10 to the Listing Rules as the code of conduct and rules governing dealings by all the Directors and the Supervisors in the securities. After specific inquiries, all the Directors and the Supervisors have confirmed that, as of 31 December 2021, they had strictly complied with the required standards set out in the Model Code for the Reporting Year.

To ensure the compliance with relevant requirements under the Listing Rules and protect the Shareholders’ interests, the Board of Directors will examine the corporate governance practices and the operations of the Company from time to time.

#### 5. Risk Management and Internal Control

The Company places prime importance to risk management and internal control. An internal control system has been established to protect the Shareholders’ and the Company’s interests.

The Board of Directors is responsible for the internal control and risk management systems of the Company and its subsidiaries, reviewing and approving significant policies and reviewing the effectiveness of the internal control and risk management systems. Such system is designed to mitigate the inherent risks faced by the Group in its business to an acceptable level, rather than eliminate all risks. Therefore, this system only provides reasonable, not absolute, assurance against major false statements or financial losses in financial data.

##### *Internal Control*

The Company has set up a set of internal control rules, including “Rules and Procedures of the General Meeting”, “Rules and Procedures of the Board Meeting”, “Rules and Procedures of the Supervisor Meeting”, “Terms of References for the Strategic Committee of the Board”, “Terms of References for the Audit Committee of the Board”, “Terms of References for the Nomination Committee of the Board”, “Terms of References for the Remuneration and Appraisal Committee of the Board”, “Provisions on Information Disclosure”, “Administrative Measures on Connected Transactions”, “Administrative Measures on Comprehensive Risk”, “Internal Control Principle Policy” and “Administrative Measures on Compliance”, etc.

#### 4. 遵守證券交易標準守則

本公司已採納上市規則附錄十所載上市公司董事進行證券交易的標準守則(「標準守則」)，作為所有董事及監事進行本公司證券交易的行為守則。根據對董事及監事的專門查詢後，所有董事及監事均確認：截至2021年12月31日止，各董事及監事在報告年度內均已嚴格遵守標準守則所訂之標準。

董事會將不時檢查本公司的企業管治、常規及運作，以確保符合上市規則有關規定並保障股東的利益。

#### 5. 風險管理及內部控制

本公司高度重視風險管理及內部控制工作，已建立了一套內部控制體系，以保障股東利益和本公司利益。

董事會對本公司及其附屬公司的內部監控及風險管理系統負有責任，審閱及批准重大政策以及檢討內部監控及風險管理系統的有效性。該等系統旨在緩解本集團在業務中面臨的內在風險至可接受的程度，而非消除所有風險。因此，該等系統僅對可防範財務資料中的重大失實陳述或財務損失提供合理而非絕對保證。

##### *內部控制*

本公司建立了一套內部控制制度，包括《股東大會議事規則》、《董事會議事規則》、《監事會議事規則》、《董事會戰略委員會工作細則》、《董事會審計委員會工作細則》、《董事會提名委員會工作細則》、《董事會薪酬與考核委員會工作細則》、《信息披露事務管理規定》、《關連交易管理辦法》、《全面風險管理辦法》、《內部控制基本制度》及《合規管理辦法》等相關制度。

## CORPORATE GOVERNANCE REPORT (CONTINUED) 企業管治報告(續)

The Company has also established the Finance and Property Department, the Enterprise Management Department, the Internal Control Audit Department and the Discipline Inspection Committee Office (Party Committee Inspection Office) and has sufficient personnel in each department in charge of financial operations, risk management, internal auditing, anti-corruption, etc. Besides, the Company has provided regular training to the Group's employees whose duties relate to finance, risk management and internal auditing so as to ensure that they are well qualified and experienced.

Every department of the Company is able to submit data to the Board of Directors smoothly. The General Manager is the most senior point of contact for each department of the Company who has the duty to effectively report to the Board of Directors in relation to the operations of each department, and to coordinate and mobilize the demands of each department to promote reasonable decision-making among the Company. The Audit Committee is responsible for reviewing the financial control, internal control and risk management systems of the Company; discussing the internal control system with the management to ensure that the management has fulfilled its duties to establish an effective internal control system; taking the initiatives or appointed by the Board of Directors to conduct researches on important findings of and the management's responses on internal control matters.

The Group communicated in a timely manner on the identified flaws of significant internal control and carefully assessed the potential risks. The supervising department put forward corrective actions, and obtained the approval from the leadership prior to its implementation. The leadership and the audit department monitored its implementation to ensure monitoring flaws resolved in time and properly.

### **Risk Management**

**System construction:** At present, the Group's comprehensive risk management system pilot construction has completed "three bases, two handbooks, one report, one standard" (that is, risk information database, risk case database, risk index database, risk operation handbook and internal control handbook, internal control evaluation standard and internal control evaluation report), initially realizing the standardization and systematization of risk management and internal control.

**Architectural construction:** The Group's overall risk management system has extended laterally to every department horizontally and vertically to every affiliate. The Board of Directors is the highest decision-making organization in respect of overall risk management. The director of each department is responsible for organizing and carrying out daily work in respect of comprehensive risk management. The Company has set up a leadership group for the construction of risk management system led by the General Manager and composed members of the heads of departments, and also established an overall risk management leadership group at every specific unit, clearly defining the management responsibilities at all levels.

本公司已設立了財務部、內控審計部和紀委辦公室(黨委巡察辦)，並為各個部門配備了充足的人員，負責財務運作、風險管理、內部審計、反腐敗等具體工作。此外，本公司亦定期為本集團內部負責財務、風險管理、內部審計的員工提供培訓，確保其擁有足夠的資質和經驗。

本公司每個部門都能將需要呈交董事會的數據順暢呈交。總經理作為與本公司各部門的最高對接口，有責任將各部門的運作有效地呈報董事會，並配合及調動各部門的需求，推動本公司內部的合理決策。審計委員會負責審查公司的財務控制、內部控制及風險管理制度；與管理層討論內部控制系統，確保管理層已履行職責以確立有效的內部控制系統；主動或應董事會的委派，就有關內部控制事宜的重要調查結果及管理層的回應進行研究。

本集團及時就所識別的重大內部監控瑕疵進行溝通，並審慎評估潛在風險。身為監控責任人的部門提出糾正措施，並於實施前獲得領導層批准。領導層及審計部監察實施情況，確保及時妥善解決監控瑕疵。

### **風險管理**

**制度建設：**目前本集團的全面風險管理體系試點建設已完成了「三庫、兩冊、一報告、一標準」(即風險信息庫、風險案例庫、風險指標庫、風險操作手冊和內部控制手冊、內控評價標準及內部控制評價報告)的編製，初步實現風險管理和內部控制的標準化與體系化。

**體系建設：**本集團的全面風險管理體系橫向到部門，縱向到各附屬公司。董事會是全面風險管理的最高決策機構，各部門主任負責組織開展全面風險管理日常工作，成立了以總經理為組長、各部門負責人為成員的風險管理體系建設領導小組；同時在附屬公司成立以總經理為組長的全面風險管理領導小組，明確各級管理職責。

## CORPORATE GOVERNANCE REPORT (CONTINUED)

### 企業管治報告(續)

#### Work implementation

This year, from the aspects of optimizing the total risk management system, enhancing the working mechanism, strengthening monitoring and early warning, etc., the Company continued to strengthen the mechanism construction, organize annual risk assessment, quarterly risk analysis, and monthly risk monitoring, intensify major risk management and special risk prevention, conscientiously consolidate the results of risk management, keep driving the organic integration of risk management and business management, gradually improve the risk management capabilities, and strengthen the Company's consistent enhancement of operation and management.

In 2021, the risk assessment adopted analytic hierarchy process, and according to the statistical results by different levels and weights, six major risks were identified for the Company this year, namely: strategy implementation risk, safety and environmental protection risk, market competition risk, cash flow risk, reform and business transformation risk and business benefit risk; combined with the international business risk and legal risk that are identified at the level of China Energy, there are eight major risk points in total. With regard to the eight major risk points, the Company has formulated corresponding pre-event, in-process and post-event countermeasures, to ensure that, through periodical summarization of the management of the eight major risk points, the major risks are under control and controllable.

In order to enhance the risk management consciousness of all the staff and promote the conscientiousness and initiative of all staff to participate in risk management, the Group also fostered the risk management culture of participation of all the staff and created good atmosphere of risk management by enhancing risk management knowledge training and multi-channel and multi-media publicity.

In 2021, the Group carried out the evaluation of internal control over all its subsidiaries by the way of independent implementation. The evaluation covered financial management, operation monitoring, compliance monitoring, risk management and other major aspects. And it promoted the construction of the overall risk management system within the whole Group. The Group holds a meeting every year to discuss risk management and internal monitoring systems to ensure that the management has fulfilled its responsibilities to establish effective systems. The Board of Directors believes that the current monitoring system of the Group is effective and adequate and considers that the resources, qualifications and experiences of the staff of the Group's accounting and financial reporting functions, its training programs and budgets thereof are adequate. The Board of Directors will continue to monitor the risk management and internal control systems in the following year.

#### 工作實施

本年度從優化全面風險管理體系、健全完善工作機制、加強監控預警等方面，不斷加強機制建設，組織開展年度風險評估、季度風險分析、月度風險監控，強化重大風險治理和專項風險防範，認真鞏固風險管理工作成果、持續推動風險管理與業務管理的有機融合，風險管理能力逐漸提高，助力本公司經營管理水平持續提升。

2021年風險評估採用層次分析法，按不同層級和權重對結果進行統計，確定公司本年度六項重大風險，分別為：戰略實施風險、安全環保風險、市場競爭風險、現金流風險、改革與業務轉型風險和經營效益風險；結合國家能源集團層面識別出的國際化經營風險和法律風險，共八個重大風險點。本公司針對八個重大風險點制定了相應的事前、事中、事後的應對措施，通過對八個重大風險點管理情況週期性的匯總，確保重大風險在控、可控。

為增強全員風險管理意識，提升全員參與風險管理的自覺性、主動性，本集團還通過加大風險管理知識培訓和多渠道、多媒體宣貫，營造風險管理的良好氛圍，培育全員參與的風險管理文化。

2021年本集團通過自主實施的方式，對附屬公司開展全覆蓋式內部控制評價工作，評價範圍涵蓋財務監控、運作監控、合規監控及風險管理等各項重大方面，並在全集團範圍內推廣全面風險管理體系建設工作。本集團每年召開一次會議討論風險管理及內部監控系統，確保管理層已履行職責建立有效的系統。董事會認為本集團目前的內部監控體系是有效及足夠的，並認為本集團在會計及財務匯報職能方面的資源、員工的資歷和經驗以及員工培訓計劃及有關預算方面是足夠的。董事會於來年會持續監控本集團的風險管理及內部監控系統。



## CORPORATE GOVERNANCE REPORT (CONTINUED) 企業管治報告(續)

### 6. Inside Information and Insider Trading Management

In order to promote fairness, transparency, accountability and responsibility, which are the core principles of good corporate governance, the Group notifies the Stock Exchange and discloses to Shareholders and other holders of its listed securities the Group's inside information in a timely manner pursuant to the Listing Rules and Part XIVA of the SFO.

In order to monitor and regulate potential insider trading activities and ensure the confidentiality of inside information, the Company has established a set of Management Rules on Inside Information of Guodian Technology & Environment Group Corporation Limited in accordance with the Company Law of the PRC, SFO, Listing Rules and other applicable laws and regulations and the requirements of the AOA. The management of the registration of inside information shall be the responsibility of the Board of Directors; the secretary of the Board of Directors shall organize the implementation of the registration of inside information; the Department of Securities and Legal Affairs (the office of the Board of Directors) ("**the office of the Board of Directors**") shall be responsible for the judgment and disclosure of inside information and improve the management over the registration management of insiders of inside information; and all the departments and subsidiaries shall report matters that may involve inside information to the office of the Board of Directors. Once the inside information involves disclosure requirements and has the conditions for disclosure, an announcement will be issued in a timely manner according to the applicable information disclosure procedures and the obligation to disclose information will be fulfilled.

### 6. 內幕信息與內幕交易管理

為推行良好公司管治的核心原則，即公正、透明、問責及負責，本集團會適時根據上市規則及《證券及期貨條例》第XIVA部向聯交所、股東及其上市證券的其他持有人披露本集團的內幕信息。

為監管和規範潛在內幕交易行為，確保內幕信息保密工作，本公司根據《中華人民共和國公司法》、《證券及期貨條例》、上市規則等有關法律法規及《公司章程》的規定，制定《國電科技環保集團股份有限公司內幕信息管理辦法》。內幕信息的登記管理工作由董事會負責，董事會秘書組織實施，由董事會的日常辦事機構證券與法律事務部(董事會辦公室)(「**董事會辦公室**」)負責內幕信息的判斷及披露工作，完善內幕信息知情人的登記管理，由各部門及附屬公司向董事會辦公室報送可能涉及內幕信息的事項。一旦內幕信息觸及披露要求、具備披露條件時，將按照信息披露程序及時發佈公告，履行信息披露義務。

## CORPORATE GOVERNANCE REPORT (CONTINUED)

### 企業管治報告(續)

#### 7. Auditors and Remuneration

Ernst & Young and BDO were appointed as auditors for the financial statements prepared in accordance with the International Financial Reporting Standards and Accounting Standards for Business Enterprises of PRC for the Reporting Year, respectively. For the Reporting Year, the fees payable to Ernst & Young and BDO for audit services were RMB5.65 million and RMB1.63 million, respectively. For the Reporting Year, the fee payable to Ernst & Young for non-auditing services was RMB6.275 million. BDO did not provide any non-auditing services for the year ended 31 December 2021.

Ernst & Young, as the Company's external auditor, has the responsibilities for the audit of the Financial Statements, which are set out on Pages 178 to 365 of this Annual Report.

#### 8. Communications with Shareholders

The Company highly appreciates Shareholders' opinions and advice, actively organizes various investor related activities to maintain communication with the Shareholders and responds to reasonable requests of Shareholders in time.

##### 8.1 Convening Extraordinary General Meetings by Shareholders

According to the AOA, two or more Shareholders holding more than 10% of the shares carrying the right to vote at the meeting sought to be held may sign one or more counterpart requisitions requiring the Board of Directors to convene an extraordinary general meeting and stating the objectives of the meeting. The Board of Directors shall, in accordance with the applicable laws and regulations and the AOA, furnish a written reply stating its agreement or disagreement to convene the extraordinary general meeting within ten days upon receipt of such requisition. If the Board of Directors agrees to convene the extraordinary general meeting, a notice for convening the meeting shall be issued within five days upon adoption of the resolution by the Board of Directors.

#### 7. 核數師及其酬金

安永和立信分別獲委任為審計於報告年度按照國際財務報告準則和中國企業會計準則編製的財務報表的核數師。於報告年度，就安永及立信提供的審計服務應付的費用分別為人民幣5,650千元和人民幣1,630千元。於報告年度，應向安永支付的非審計服務費為人民幣6,275千元。截至2021年12月31日止年度，立信並未提供任何非審計服務。

安永作為本公司外聘核數師對財務報表的核數責任，載於本報告第178至365頁。

#### 8. 與股東的溝通

本公司高度重視股東的意見和建議，積極開展各類與投資者相關的活動，與股東保持溝通，及時滿足各股東的合理需求。

##### 8.1 股東召開臨時股東大會

根據《公司章程》，合計持有在該擬舉行的會議上有表決權的股份10%以上的兩個或兩個以上的股東，可以簽署一份或數份同樣格式內容的書面要求，提請董事會召集臨時股東大會，並闡明會議的議題。董事會應當根據法律法規和《公司章程》的規定，在收到請求後十日內提出同意或不同意召開臨時股東大會的書面反饋意見。若董事會同意召開臨時股東大會，應當在作出董事會決議後五日內發出召開會議的通知。

## CORPORATE GOVERNANCE REPORT (CONTINUED) 企業管治報告(續)

If the Board of Directors does not agree to convene the extraordinary general meeting, or if it fails to give its feedback in writing within ten days upon receipt of such requisition, the Shareholders individually or jointly holding an aggregate of more than 10% of the shares carrying the right to vote at the meeting sought to be held shall be entitled to propose to the Board of Supervisors to convene an extraordinary general meeting, and shall submit its proposal in writing to the Board of Supervisors. If the Board of Supervisors agrees to convene the extraordinary general meeting, a notice for convening such meeting shall be issued within five days upon receipt of such requisition.

If the Board of Supervisors fails to issue a notice for such meeting within the prescribed period, the Board of Supervisors shall be deemed not to convene and preside at the meeting, and the Shareholders individually or jointly holding an aggregate of more than 10% of the shares of the Company for more than 90 consecutive days may convene and preside at the meeting at their own discretion.

The procedures of the meeting convened by requisitioning Shareholders due to the failure of holding such meeting by the Board of Directors upon the aforesaid requisition shall be as similar as possible to those in which general meetings are to be convened by the Board of Directors.

### 8.2 Putting Forward Proposals at the General Meetings

According to the AOA, when the Company convenes a general meeting, the Shareholders individually or jointly holding more than 3% of the shares of the Company shall have the right to file the proposal. The Shareholders holding more than 3% of the shares of the Company shall have the right to file the temporary proposal in writing, and the Company shall include matters in the proposal within the scope of duties and responsibilities of the general meetings on the agenda, if the criteria as specified in the AOA are met.

若董事會不同意召開臨時股東大會，或者在收到請求後十日內未作出書面反饋，單獨或者合計持有在該擬舉行的會議上有表決權的股份10%以上的股東有權向監事會提議召開臨時股東大會，並應當以書面形式向監事會提出請求。若監事會同意召開臨時股東大會，應在收到請求五日內發出召開會議的通知。

若監事會未在規定期限內發出會議通知，視為監事會不召集和主持股東大會，連續九十日以上單獨或者合計持有本公司10%以上股份的股東可以自行召集和主持會議。

股東因董事會未應前述要求舉行會議而自行召集會議的，召集的程序應當盡可能與董事會召集股東會議的程序相同。

### 8.2 在股東大會提出建議

根據《公司章程》，公司召開股東大會，單獨或合計持有公司3%以上股份的股東有權向本公司提出提案。單獨或合計持有本公司3%以上股份的股東，有權以書面形式向本公司提出臨時提案，倘《公司章程》所列的要求均已滿足，則本公司應將該臨時提案中屬股東大會職責範圍內的事項列入會議日程。

## CORPORATE GOVERNANCE REPORT (CONTINUED)

### 企業管治報告(續)

#### 8.3 Investor Relations Activities

The Group has received questions from visiting investors, analysts and press thoughtfully and considered and answered their related questions efficiently and accurately; the Group has paid close attention to the developing trends in the market, and always communicated with the public in a realistic, objective and compliant way.

##### 8.3.1 Results Roadshows

The Group did not carry out roadshow activities in 2021.

##### 8.3.2 Investors' Routine Visits

During the Reporting Year, the Company received 21 groups of investors and analysts by way of one-to-one/group/telephone meetings, totaling 27 people.

#### 8.4 Putting Forward Enquiries to the Board of Directors

According to the AOA, all the Directors shall attend general meetings. The Shareholders may present enquiries to the Board of Directors at such general meetings. If the Shareholders need to contact the Board of Directors for enquiries, they are also welcomed to send enquiries directly to the Company, with contact details as follows:

Attn:	The Department of Securities and Legal Affairs (the office of the Board of Directors)
Address:	Suite 1225, Building 1, Yard 16, W.4th Ring Middle Road, Haidian District, Beijing, PRC
Postal Code:	100039
Tel:	010-5765 7777
Fax:	010-5765 9705
Email:	1296board@chnenergy.com.cn

For the avoidance of doubt, the Shareholder(s) must deposit and send the original duly signed written enquiry or correspondence of any type to the above address, and provide his or her full name, contact details and proof of identification in order to give effect thereto.

#### 8.3 投資者關係活動

本集團週密安排、認真接待投資者、分析師、新聞媒體的來訪，高效、準確地回答相關問題；密切關注市場發展趨勢，始終以真實、客觀、合規的角度與公眾進行溝通。

##### 8.3.1 業績路演

2021年度本集團未開展路演活動。

##### 8.3.2 投資者日常來訪

報告年度，本公司以一對一會議／小組會議／電話會議方式接待投資者、分析師21批次，共計27人。

#### 8.4 向董事會提出查詢

根據《公司章程》，全體董事都應當出席股東大會，股東可以在股東大會上向董事會提出查詢。如果股東因查詢而須聯繫董事會，他們也可以直接將查詢函發送至本公司，具體聯繫方式如下：

收件人：	證券與法律事務部(董事會辦公室)
地址：	中國北京市海澱區西四環中路16號院1號樓1225室
郵編：	100039
電話：	010-5765 7777
傳真：	010-5765 9705
電子郵件：	1296board@chnenergy.com.cn

為免生疑，股東須將正式簽署的書面查詢原件或其他形式的信函送交或寄送至上述地址，並提供全名、聯繫方式詳情以及身份證明，方告生效。

# CORPORATE GOVERNANCE REPORT (CONTINUED)

## 企業管治報告(續)

### 8.5 Disseminating Information through the Internet

In order to promote good corporate governance and increase transparency, the Company has set up a website (<http://www.khjt.com.cn/khjtwwEn>) as a channel to disseminate information. The Company implements certain internal procedures to vet information which is to be put on its website and also monitors its website to ensure that all published information is up-to-date and accurate.

### 8.6 Overseas Regulatory Announcement

As Longyuan Technology, a subsidiary of the Company, is a public company listed on the Shenzhen Stock Exchange, the Company has complied with the requirements regarding overseas regulatory announcements in accordance with Rule 13.10(B) of the Listing Rules.

Furthermore, as the corporate bonds of the Company are listed on the Shanghai Stock Exchange, the Company has complied with the requirements regarding overseas regulatory announcements in accordance with Rule 13.10(B) of the Listing Rules in this regard.

## 9. Company Secretaries

Due to work adjustment, Mr. CAI Zhaowen resigned as the vice president, secretary to the Board of Directors, joint company secretary and chief legal counsel of the Company with effect from 22 January 2021. For details, please see the announcement of the Company dated 22 January 2021.

Due to other work arrangement, Mr. LEE Kwok Fai Kenneth resigned as the Company Secretary and an authorised representative under Rule 3.05 of the Listing Rules and an authorised representative under the Companies Ordinance (Chapter 622 of the Laws of Hong Kong) for acceptance of service of process or notices on behalf of the Company in Hong Kong (collectively, the “**Authorised Representatives**”) with effect from 28 December 2021. For details, please see the announcement of the Company dated 28 December 2021.

The Company appointed Ms. NG Sau Mei, a director of TMF Hong Kong Limited, as the Company Secretary and Authorised Representatives at the eighteenth meeting of the fourth session of the Board of Directors in 2021 convened on 28 December 2021. For details, please see the announcement of the Company dated 28 December 2021. Her primary contact person at the Company is Ms. QIN Xiangling, the secretary to the Board of Directors.

For the year ended 31 December 2021, Ms. NG Sau Mei and Mr. LEE Kwok Fai Kenneth took no less than 15 hours of relevant professional training in compliance with Rule 3.29 of the Listing Rules.

### 8.5 互聯網信息發佈的管理工作

為提升企業管治水平和增加企業透明度，本公司設立網站(<http://www.khjt.com.cn/khjtww>)並使用互聯網作為發放資料的渠道，本公司執行一定內部程序以審閱即將登載在其網站上的信息，同時監察其網站，以確保所有公佈的信息都是最新的並且是正確的。

### 8.6 海外監管公告

由於本公司的附屬公司龍源技術於深圳證券交易所上市，本公司已根據上市規則第13.10(B)條遵守海外監管公告的相關規定。

此外，由於本公司的公司債券在上海證券交易所上市，本公司已根據上市規則第13.10(B)條遵守海外監管公告的相關規定。

## 9. 公司秘書

因工作調動，蔡兆文先生於2021年1月22日辭去本公司副總經理、董事會秘書、聯席公司秘書及總法律顧問職務。有關詳情請參閱本公司日期為2021年1月22日的公告。

因其他工作安排，李國輝先生於2021年12月28日辭去公司秘書及上市規則第3.05條項下之本公司授權代表及根據公司條例(香港法例第622章)在香港代表本公司接受法律程序文件或通知的獲授權代表(統稱「**授權代表**」)職務。有關詳情請參閱本公司日期為2021年12月28日的公告。

本公司於2021年12月28日召開的第四屆董事會2021年第十八次會議上委任外部服務供應商達盟有限公司之董事伍秀薇女士為公司秘書及授權代表。有關詳情請參閱本公司日期為2021年12月28日的公告。其於本公司的主要聯絡人為董事會秘書秦湘靈女士。

截至2021年12月31日止年度，伍秀薇女士及李國輝先生已遵守上市規則第3.29條之規定完成不少於15小時的相關專業培訓。

## CORPORATE GOVERNANCE REPORT (CONTINUED)

### 企業管治報告(續)

#### 10. Amendments to the AOA

In 2021, there were no significant changes to the AOA of the Company.

#### 11. Connected Transaction Management

In order to strengthen the Company's management of connected transactions, the Company has established the "Management Rules on the Conduct of Connected Transactions" and designated the office of the Board of Directors and Finance and Property Division for the management of connected transactions. In order to ensure that the Company's connected transactions are carried out in accordance with the relevant rules and regulations and that the aggregated transaction amounts do not exceed the annual caps, the Company has notified all the departments and subsidiaries regarding the applicable continuing connected transaction caps, allocated monitoring obligations to specific departments and subsidiaries, and required the relevant departments and subsidiaries to report to the senior management regarding the connected transactions without delay. The Group has provided regular training to internal staff in relation to connected transactions from time to time, and has designated specialized personnel to report information to ensure full compliance with the relevant Listing Rules.

#### 10. 對《公司章程》的修改

於2021年，《公司章程》無重大變動。

#### 11. 關連交易管理

為強化本公司的關連交易管理，本公司已建立《關連交易管理辦法》，並指定董事會辦公室及財務部管理關連交易。為確保本公司關連交易乃根據適用條例和法規實施以及交易總額不超過年度上限，本公司已將適用持續關連交易上限通告所有部門及附屬公司，將監控職責落實到各部門及附屬公司，並要求相關部門及附屬公司將涉及的關連交易及時向高級管理層報告。本集團為內部職工提供不時培訓，並指定專人負責信息報送，以確保完全遵守相關上市規則。

## CORPORATE GOVERNANCE REPORT (CONTINUED) 企業管治報告(續)

### 12. Emoluments of Directors and Senior Management

Details of the emoluments of Directors for the Reporting Year are set out in Note 12 to the Financial Statements.

The emoluments of senior management (exclusive of Directors) for the Reporting Year are within the following bands:

### 12. 董事及高級管理人員薪酬

各董事於報告年度的薪酬詳情載於財務報表附註12。

於報告年度高級管理人員(除董事外)的薪酬範圍如下。

<b>Emoluments Band (RMB)</b> 薪酬範圍(人民幣元)	<b>2021</b> <b>Number of</b> <b>Individuals</b> 2021年人數	2020 Number of Individuals 2020年人數
300,000–600,000	<b>3</b>	–
>600,000	<b>2</b>	5
合計	<b>5</b>	5

# SUMMARY OF HUMAN RESOURCES

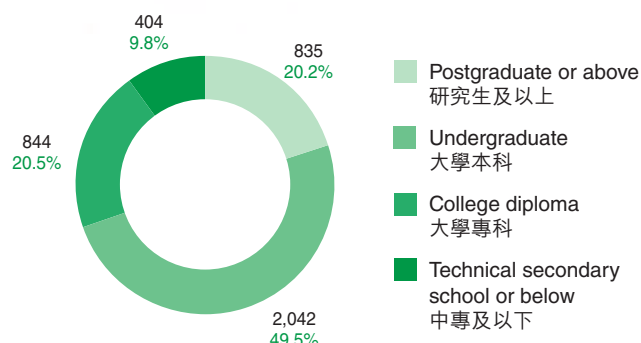
## 人力資源概況

As at 31 December 2021, the Group had a total of 4,125 staff, of which 2,816 or 68.3% were male while 1,309 or 31.7% were female. The staff structure is as follows:

於2021年12月31日，本集團共有員工4,125人，其中男性僱員2,816人，佔68.3%；女性僱員1,309人，佔31.7%。人員構成情況如下：

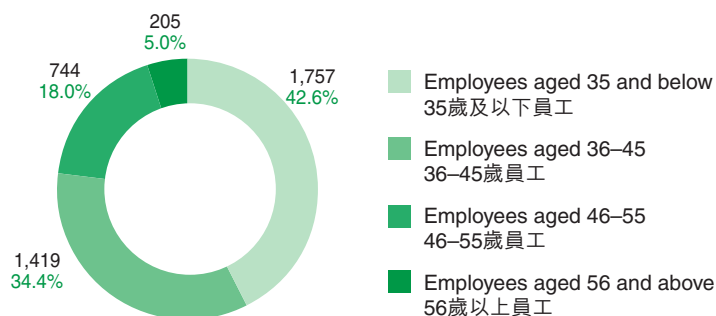
**Table 1: Analysis of the Group's Staff by Academic Qualification (The Number and Percentage of Staff)**

表一：本集團按學歷劃分的員工分析(人數及百分比)



**Table 2: Analysis of the Group's Staff by Age (The Number and Percentage of Staff)**

表二：本集團按年齡劃分的員工分析(人數及百分比)





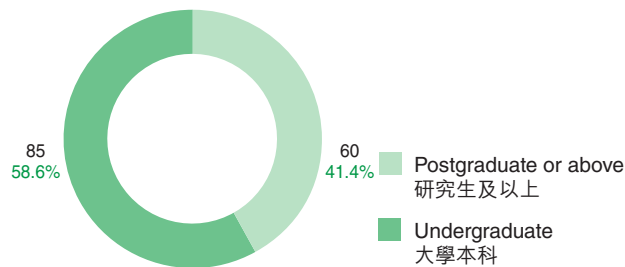
## SUMMARY OF HUMAN RESOURCES (CONTINUED) 人力資源概況(續)

As at 31 December 2021, the Company had a total of 145 staff. The staff structure is as follows:

於2021年12月31日，本公司共有員工145名。人員構成情況如下：

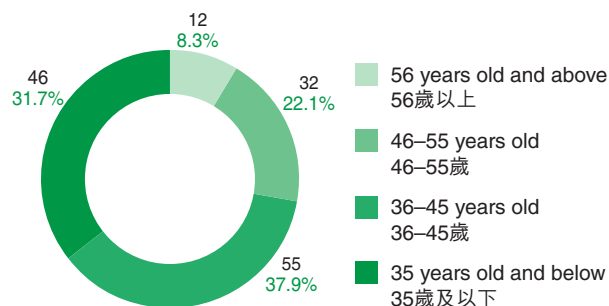
**Table 3: Analysis of the Company's Staff by Academic Qualification (The Number and Percentage of Staff)**

表三：本公司按學歷劃分的員工分析(人數及百分比)



**Table 4: Analysis of the Company's Staff by Age (The Number and Percentage of Staff)**

表四：本公司按年齡劃分的員工分析(人數及百分比)



### EMPLOYEE REMUNERATION SYSTEM AND PERFORMANCE EVALUATION

### 員工薪酬制度和績效考核

The Company has implemented the Interim Measures Governing Remuneration of the HQ, the Measures Governing Remuneration Payment of the HQ, the Interim Measures Governing the Department Performance Evaluation of the HQ and the Interim Measures Governing the Staff Performance Evaluation of the HQ. The remuneration management of the Company adheres to four principles, namely: the principle of focusing on value creation and more work and more gain, the principle of fairness, justice and reasonable gap, the principle of tripartite linkage among enterprise performance, department performance and individual performance and the principle of paying equal attention to process and result and continuous improvement of performance. Every subsidiary or branch has established its own management measures according to the above principles and according to the regulations and rules of the HQ, and then filed the same with the Group.

本公司施行《本部薪酬管理暫行辦法》、《本部薪酬支付管理辦法》、《本部部門績效考核管理暫行辦法》及《本部員工績效考核管理暫行辦法》。本公司薪酬管理堅持四大原則，即：突出價值創造、多勞多得導向原則；突出公平、公正、合理拉開差距原則；突出企業、部門、個人績效三方聯動原則；過程與結果並重、績效持續改進原則。各子分公司依據上述原則，參照本部規定製定各公司相應管理辦法並報本集團備案。

## SUMMARY OF HUMAN RESOURCES (CONTINUED)

### 人力資源概況(續)

In 2021, the Company continued to implement the internal income distribution mode based on the post value and performance contribution, and formed the post performance salary mechanism of hierarchical classification and diversification. The remuneration of the staff consists of three parts: basic salary, performance salary and reward salary. The performance salary is determined according to the Company's performance and performance evaluation. The reward salary is determined according to the completion of the Company's annual key work.

### STAFF TRAINING

In 2021, the Company organized offline thematic training sessions such as induction training for new employees, training for outstanding young cadres, discipline inspection and supervision, and training on branding topics as well as online training, totaling 48,457 training hours with 15,058 trainees throughout the year.

Create a flexible and transparent talent quality training system that is accurate in its policy implementation. On the one hand, we have maximized the use of the Rongzhi platform and aggressively pushed online training and teaching during the COVID-19 pandemic, resulting in a total of 1,970 trainees with a cumulative learning time of 21,934 hours; we have innovatively implemented micro-class activities and recorded high-quality classes. Seven micro-class works from the Group's six subsidiaries have advanced to the semi-finals of China Energy's first "Rongzhi Cup" micro-class competition. On the other hand, we have extended the outreach of the "Creation • Enjoy" salon brand. We have organized and carried out four modules, i.e., professional knowledge and skills training, project experience exchange, high-end sharing of "peak carbon dioxide emissions and carbon neutrality" policy seminars, and theme seminars, consisting of the sharing of 23 salon seminars. These efforts, which aimed to establish a long-term mechanism for staff to innovate, share, and communicate, have benefitted 1,237 employees and further contributed to building the "Creation • Enjoy" salon brand.

2021年本公司繼續落實以崗位價值和績效貢獻為主的內部收入分配方式，形成分層分類多元化的崗位績效工資機制。本集團員工薪酬由基本工資、績效工資和獎勵工資三部份組成，績效工資依據公司業績及績效考核情況確定，獎勵工資依據公司年度重點工作完成情況確定。

### 員工培訓

2021年，本公司組織開展新員工入職培訓、優秀年輕幹部培訓、紀檢監察、品牌專題培訓等線下專題培訓班次及各類線上培訓，全年本集團共培訓15,058人次，共計培訓48,457學時。

構建靈活開放、精準施策的人才素質培訓體系。一方面是充分利用融智平台，疫情期間積極推進線上培訓教學，累計培訓人數1,970人次，累計學習時長21,934學時；創新實施微課堂活動，錄製精品課程，本集團6家附屬公司7堂微課作品選入國家能源集團第一屆「融智杯」微課大賽複賽。另一方面是擴大「創•享」沙龍品牌影響力。組織開展專業知識技能培訓、項目經驗交流、「碳达峰、碳中和」政策研討會等高端分享、主題研討等四個模塊23期沙龍專題講座分享，形成創新分享長效機制，促進員工創新、分享、交流，受益1,237人次，進一步擴大「創•享」沙龍品牌建設。

## SUMMARY OF HUMAN RESOURCES (CONTINUED)

### 人力資源概況(續)

Promote the construction of the talent team for scientific and technological innovation. We have improved the construction of the system and mechanism for developing talents in scientific and technological innovation and formulated and issued the Management Measures for the Introduction of Scientific and Technological Talents (Trial), further stimulating the vitality of talents. We have recruited and re-hired six senior and leading talents and experts. Leading talents can enjoy the General Manager treatment at the highest level, fully unleashing the ardor of talents in scientific and technological innovation. Lu Guangjie, an employee of Longyuan Technology, was nominated as China Energy's first outstanding talent in scientific and technological innovation. Additionally, Guoneng Zhishen was named China Energy's first excellent scientific and technological innovation team.

The working concepts of the Group for the next step is to actively implement the new strategy of energy safety, focusing on the Group's "one goal, three type and five based, and seven leading" development strategies and the key work tasks of Guodian Tech, vigorously promoting the strategy of talents to strengthen enterprise, taking firm ideals and beliefs as the foundation, followed by achieving high-quality development of the enterprise, strengthening political theory literacy and training in political capacity building, solidly carrying out professional competence training and knowledge training, and comprehensively improving the cadres 'executive skills and employees' knowledge and skills, focusing on cultivating a team of high-quality professional talents catering to the enterprise reform and development, and providing talent guarantee and intellectual support for the construction of a world-class professional technology environmental protection company.

推進科技創新人才隊伍建設。完善科技創新人才發展體制機制建設，制定下發《科環科技人才引進管理辦法(試行)》，人才活力進一步釋放。選拔、續聘資深、領軍人才及專家6人，領軍人才最高可享受基層單位總經理級別待遇，充分激發了技術研發人才的工作積極性。龍源技術員工路光潔獲得國家能源集團首屆優秀科技創新人才稱號，國能智深獲得國家能源集團首屆優秀科技創新團隊稱號。

本集團下一步工作思路是積極貫徹落實能源安全新戰略，圍繞集團公司「一個目標、三型五化、七個一流」發展戰略和國電科環重點工作任務，大力推進人才強企戰略，以堅定理想信念宗旨為根本，以實現企業高質量發展為遵循，加強政治理論素養、政治能力建設培訓，紮實開展專業化能力培訓和知識培訓，全面提升幹部治企本領和員工知識素養、技能水平，著力培養適應企業改革發展需要的高素質專業化人才隊伍，為建設世界一流專業化的科技環保公司提供人才保證和智力支持。

# ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT

## 環境、社會及管治報告

### 1 ABOUT THIS REPORT

This Report is the sixth annual Environmental, Social and Governance (“ESG”) Report issued by the Group. This Report focuses on the Group’s environmental, social and governance policies, as well as specific management measures taken during the Reporting Period, aiming at strengthening communication and connection between and with the Group’s internal and external stakeholders.

The Group’s Board of Directors bears full responsibility for the Group’s ESG strategy and reporting, and is responsible for assessing and identifying the Group’s risks related to ESG and ensuring that the Group has established proper and effective ESG risk management as well as the internal control system. The Board of Directors and all directors hereby guarantee that there are no false records, misleading statements or major omissions in the contents of this Report and that they are severally and jointly liable for the authenticity, accuracy and completeness of the contents hereof.

#### 1.1 Basic Information of the Report

##### *Subject Scope of the Report*

Guodian Technology & Environment Group Corporation Limited and its subsidiaries. United Power was no longer consolidated into the consolidated financial statements of the Group from October 2021 as the disposal of equity, and all data in the Report does not contain any data of United Power.

##### *Time Range of the Report*

The Group’s Environmental, Social and Governance Report is an annual report, with the reporting period from 1 January 2021 to 31 December 2021, where some of the statements and data are appropriately traced back to the previous years.

##### *Preparation Basis*

The contents of this Report have been prepared in accordance with the requirements of the “Environmental, Social and Governance Reporting Guide” (the “ESG Reporting Guide”) in Appendix 27 to the Listing Rules.

### 1 關於本報告

本報告為本集團第六次發佈的年度環境、社會及管治(「ESG」)報告，主要介紹本集團在環境、社會及管治方面的管理政策以及在報告期間採取的具體管理措施，旨在加強與本集團內外部利益相關方之間的溝通與聯繫。

本集團董事會對本集團的ESG策略及匯報承擔全部責任，負責評估及釐定本集團有關ESG的風險，並確保本集團設立合適及有效的ESG風險管理及內部監控系統。董事會及全體董事保證本報告內容不存在任何虛假記載、誤導性陳述或重大遺漏，並對其內容的真實性、準確性和完整性承擔個別及連帶責任。

#### 1.1 報告基本信息

##### *報告主體範圍*

國電科技環保集團股份有限公司及其附屬公司。由於股權處置，聯合動力從2021年10月起不再納入本集團合併報表，本報告涉及數據均不包含聯合動力。

##### *報告時間範圍*

本集團《環境、社會及管治報告》為年度報告，報告期間為2021年1月1日至2021年12月31日，部分表述及數據適當追溯以前年份。

##### *編製依據*

本報告的內容是參照交易所上市規則附錄二十七《環境、社會及管治報告指引》(「ESG報告指引」)的要求而編製的。

# ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED)

## 環境、社會及管治報告(續)

### **Reporting Principles**

During its preparation, the Group adheres to the reporting principles of materiality, quantitative, balance and consistency by:

**Materiality:** Identifying material issues through stakeholder engagement and making key disclosures about these issues.

**Quantitative:** Presenting information in a quantitative way, where feasible.

**Balance:** Reporting information in an objective and unbiased manner to ensure it reflects both the achievements and the challenges faced by the Group.

**Consistency:** Using consistent measurement methods to enable meaningful comparisons of the Group's ESG performance.

### **Access to the Report**

This Report is published in the annual report of the Group. You may download the Chinese and English versions of this Report on the website disclosed by the Stock Exchange or the website of the Group: <http://www.khjt.com.cn/>. This Report is published in both Chinese and English. In case of ambiguity between these two versions, the Chinese version shall prevail.

Terms used but not defined in this Report have the same meaning as those defined in the Annual Report.

### **匯報原則**

於編製過程中，本集團遵循重要性、量化、平衡及一致性的報告原則：

**重要性：**通過持份者參與識別重大問題並對該等問題進行關鍵披露。

**量化：**在可行的情況下，以量化的方式呈報資料。

**平衡：**以客觀和公正的方式報告信息，以確保其反映本集團的成就及面臨的挑戰。

**一致性：**使用一致的測量方法對本集團的ESG表現進行有意義的比較。

### **報告獲取**

本報告登載在本集團年度報告中，您可以在交易所披露網站或本集團的網站<http://www.khjt.com.cn/>下載查閱本報告的中英文版本。本報告以中英文兩種文字出版，在對兩種文本理解發生歧義時，請以中文文本為準。

本報告所使用但未定義的詞彙與本年度報告所界定者具有相同含義。

# ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED)

## 環境、社會及管治報告(續)

### 1.2 ESG Management Vision

At present, overall speaking, the world economy is in the state of recovery, and China's economic development has entered a period of new normal and is at the crucial stage of transformation and structural adjustments. With the further deepening of the industrial structural transformation and upgrading, the electric power industry is transforming from the scale-oriented expansion to quality benefit-oriented development. The commitment of 2060 carbon neutrality proposed by China provides opportunities for the development of new energy-saving and green low-carbon industries, and brings new challenges and opportunities for the transformation of the Group as well. The Group will closely focus on energy structure adjustment and electric power technology reform, under the guidance of the five new development concepts of "innovation, coordination, greening, opening and sharing" emphasized in CPC's 14th Five-Year Plan and 2035 long-term goal outline, adhere to the industrial development direction of safer, cleaner, more efficient and sustainable energy utilization, and make contribution to the construction of a beautiful China, an ecological China, and a green China.

Over the years, the Group has committed to developing and promoting environmental protection and energy conservation solutions and renewable energy technologies while focusing on the breakthrough of a range of key core technologies, forming a strategic emerging industry cluster with comparative advantages, enhancing its capability to fulfill its corporate social responsibility and promoting clean electricity production, ending up a pioneering company in environmental protection, energy conservation and renewable energy in China's electric power sector.

Looking into the future, with the platform and resources our controlling shareholder China Energy provides, we will continue to reinforce the leadership of the CPC over the state-owned enterprise and firmly observe the market rules and mechanisms to improve and strengthen the major core business sections including energy conservation, environment protection, wind power products and services, and transform the enterprise from healthy development to sustainable development. We will strive to become a world-leading product and service provider in terms of the environmental protection and energy conservation solutions and renewable energy equipment and solutions. And repay our shareholders and the society with excellent business performance.

### 1.2 ESG管理願景

當前，世界經濟總體保持復甦態勢，我國經濟發展進入新常態，正處於轉方式調結構的緊要關口，產業結構轉型升級逐步深化，電力行業發展也由規模擴張型向質量效益型轉變。國家提出2060碳達峰碳中和承諾，為新型節能和綠色低碳環保產業的發展提供了機會，也為本集團轉型帶來了新的挑戰和機遇。本集團將緊緊圍繞能源結構調整和電力科技變革，按照黨的十四五規劃和2035年遠景目標綱要強調的「創新、協調、綠色、開放、共享」五大新發展理念為引領，堅持能源利用更加安全、清潔、高效、可持續的產業發展方向，為建設美麗中國、生態中國、綠色中國貢獻力量。

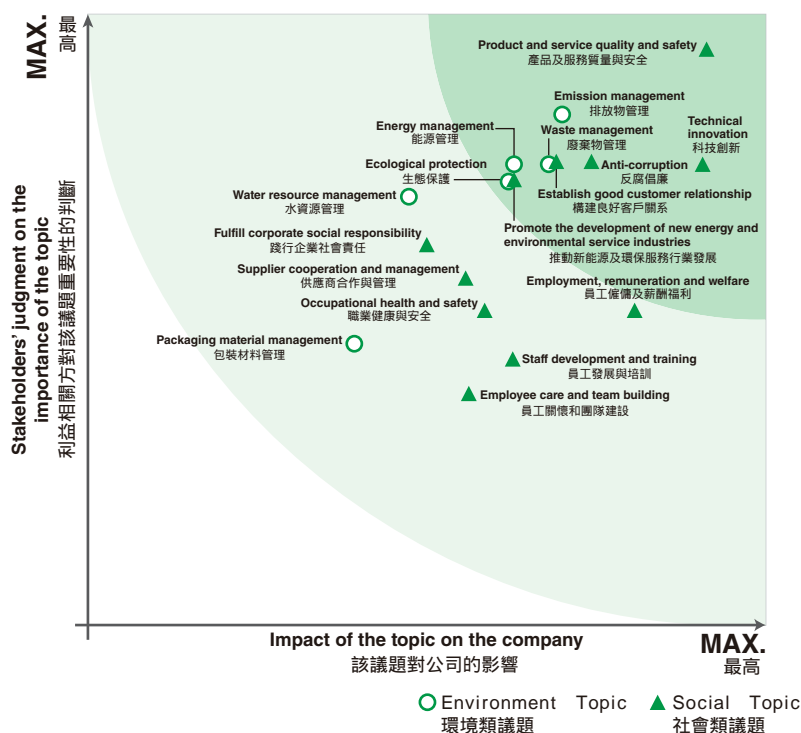
多年來，本集團致力於環保節能與可再生能源技術的開發和推廣，著眼於突破一批關鍵核心技術，形成了具有比較優勢的戰略性新興產業集群，提高了履行企業社會責任的能力和電力行業清潔生產水平，成為中國電力行業中享有盛譽的環保節能和可再生能源領域的先進企業。

展望未來，本集團將繼續利用其控股股東國家能源集團所提供的平台和資源，進一步強化黨對國有企業的領導，堅定不移地按照市場化規律和機制，做優做强節能、環保、新能源發電、風電產品及服務等核心業務板塊，推動企業由健康發展向可持續發展轉變。本集團將力爭成為全球領先的環保與節能解決方案及可再生能源設備與解決方案領域的產品和服務提供商，並以優異的經營業績回報股東，回報社會。

# ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED) 環境、社會及管治報告(續)

## 1.3 Materiality Analysis of the Topics

With regard to the process of Materiality Analysis, the Company will, according to the ESG Reporting Guide of the Stock Exchange and with reference to the Global Reporting Initiative (the “GRI”), collect and record the main stakeholders’ concerned topics and the importance of each topic through questionnaires, interviews, etc., conduct importance analysis and sort the items, identify the Company’s material environmental, social, and governance topics and disclose them in the report, as shown below.



## 1.4 Statement of the Board of Directors

The Board of Directors of the Group attaches great importance to the ESG work, and establishes effective ESG management mechanism suitable for the realities of the Group according to requirements on responsibilities of the Board of Directors in the ESG Reporting Guide of the Stock Exchange. Thanks to such mechanism featured by clear governance structure and definite division of labor, the Company has efficiently implemented various ESG tasks.

## 1.3 議題實質性分析

本公司根據交易所ESG報告指引要求，參考全球報告倡議組織（「GRI」）有關實質性分析的流程，通過調查問卷、訪談等形式，收集並記錄本公司主要利益相關方關注的議題及對各議題重要性評估結果，並進行重要性分析和排序，確定本公司在環境、社會及管治方面的實質性(重要)議題，並在報告中進行披露，如下圖所示。

## 1.4 董事會聲明

本集團董事會高度重視ESG工作，基於聯交所《ESG報告指引》關於董事會責任相關要求，建立了有效且適合本集團實際情況的ESG管理機制，ESG治理結構清晰、分工明確，推動本公司各項ESG工作得到落實。

# ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED)

## 環境、社會及管治報告(續)

As the highest responsible body for ESG matters of the Group, the Board of Directors is responsible for the management and decision-making of relevant ESG matters. The Audit Committee, as a special committee for the management of ESG matters, is responsible for defining ESG-related strategies and development directions, formulating ESG work tactics, receiving regular briefings from the ESG Working Group, and comprehensively supervising the Group's ESG management. The Board of Directors specifically deliberates and approves the Group's Environmental, Social and Governance Report each year to ensure that the information in the report is true and accurate. In 2021, the Group preliminarily identified both the physical risks and transitional risks of climate change to the company and carried out countermeasures for these risks. In the future, the Group will further enhance the capability to manage climate risks and opportunities, assess relevant risks based on the preliminary identification and prepare response plans.

During this reporting year, the Board of Directors of the Group has completed the review of the implementation of ESG matters for the year, and received the briefings on the identification of ESG risks, the setting of ESG environmental goals and other relevant work. The Board of Directors has reviewed, discussed and confirmed the results of ESG work and information disclosure thereof for the year.

The Board of Directors of Guodian Technology & Environment Group Corporation Limited

董事會為本集團ESG事務最高責任機構，對本集團ESG事宜的管理與決策負責。並由審計委員會作為ESG事項管理的專門委員會，負責明確ESG有關戰略及發展方向，制定ESG工作策略並定期聽取ESG工作組的匯報，全面監督本集團ESG管理工作。董事會每年專門審議並批准本集團《環境、社會和及管治報告》，保證《環境、社會和及管治報告》信息真實準確。2021年，本集團已從實體風險及轉型風險兩方面初步識別氣候變化給企業帶來的風險，並為識別出的風險開展應對行動。未來，本集團將繼續加強氣候風險和機遇的管理能力，在初步識別基礎上對相關風險進行評估，制定應對計劃。

於本匯報年度內，本集團董事會已完成本年度ESG事宜落實情況回顧，聽取有關ESG風險識別及ESG環境目標設定有關工作情況的匯報。董事會已就本年度ESG工作成果及信息披露情況進行了審閱、討論及確認。

國電科技環保集團股份有限公司  
董事會

## 2. PRACTICING THE CONCEPT OF GREEN DEVELOPMENT

### 2.1 Making Use of Industry Advantages and Promoting Clean Development

Since its establishment, the Group has always attached great importance to business operation and the sustainable development of society and environment, and made use of the company's advantages of technology and environmental protection, and actively put the corporate vision of Green Technology for A Better World into practice.

The Group, focusing on the main businesses of power generation and coal of China Energy and adhering to the industrial development direction of efficient and clean use of energy, has formed two major core business segments, i.e., environmental protection and energy conservation solutions, renewable energy production and services, making outstanding contributions to the development of green energy.

## 2 踐行綠色發展理念

### 2.1 發揮行業優勢促進清潔發展

自成立以來，本集團一直重視企業經營和社會、環境的可持續發展，利用科技環保企業的優勢，積極踐行綠色科技、全球共享的企業願景。

本集團圍繞國家能源集團的發電和煤炭主業，堅持能源高效、清潔利用的產業發展方向，形成了環保與節能解決方案、可再生能源製造及服務兩大核心業務分部，為發展綠色能源做出了傑出貢獻。



## ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED) 環境、社會及管治報告(續)

The Group is currently China's largest energy-saving environmental protection service provider of conventional coal-fired power plants and a leading manufacturer of renewable energy system services and equipment, and continues to boost the industry with leading technologies. The Group has successively been selected for Global TOP 500 New Energy Enterprises for ten years, and cultivated a series of well-known brands such as Longyuan Environmental, Longyuan Technology and Guoneng Zhishen etc., through its rapid development.

本集團是目前中國最大的常規燃煤電廠節能環保服務商和領先的可再生能源系統服務及設備製造商，並以領先的技術水平不斷推動行業發展。本集團連續十年榮獲全球新能源企業500強，在快速發展中培育了龍源環保、龍源技術和國能智深等一批知名品牌。

Segment 板塊	Major Business 主要業務	Industrial Position 行業地位	Representative Enterprises 代表企業
Environmental protection and energy conservation solutions 環保與節能解決方案	Environmental protection Flue gas treatment, water treatment, noise control, sludge treatment etc. for coal-fired power plants 環保 燃煤電廠煙氣治理、水治理、噪聲治理、污泥治理等	Leading enterprise in the thermal power plant environmental protection industry 火電廠環保產業龍頭企業	Longyuan Environmental Longyuan Technology (low-nitrogen combustion business) Lucency 龍源環保 龍源技術(低氮燃燒業務) 朗新明
	Energy conservation solutions 節能解決方案	Boiler energy conservation, steam turbine energy conservation, excess heat and residual pressure utilization, cold-end energy conservation, etc. 鍋爐節能、汽輪機節能、餘熱餘壓利用、冷端節能等	Outstanding achievements 成績斐然 Longyuan Energy Conservation Longyuan Technology (Plasma ignition business) 龍源節能 龍源技術(等離子點火業務)
	Power station EPC 電站EPC	General contracting of power station, energy conservation technical service for power plants, etc. 電站總承包、發電廠節能技術服務等	Domestic first-class level in terms of the engineering construction of generator sets of the same type 國內同類型機組工程建設一流水平 Longyuan Engineering 龍源工程
Renewable energy equipment manufacturing and service 可再生能源製造及服務	WTG products and services 風機產品及服務	Complete machine technology of WTG, variable pitch technology and converter technology, covering the entire industrial chain of wind power equipment design and manufacturing 風電整體技術、變槳技術和變流器技術，覆蓋風電設備設計製造整條產業鏈	World-leading wind power overall solution supplier, industry-leading customized operation and maintenance service provider 全球領先的風電整體解決方案提供商、行業領先的定製化運維服務商 聯合動力 龍源電氣 國能信控 赤峰風電
	Electronic-informatization-based power generation 電力電子信息化	Power plant DCS, informatization management system 電廠DCS、信息化管理系統等	First-rate in China 國內一流 Guoneng Zhishen Guoneng I&C 國能智深 國能信控

# ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED)

## 環境、社會及管治報告(續)

### 2.1.1 Segment of Environmental Protection and Energy Conservation Solutions

#### Environmental Protection Business

Longyuan Environmental is one of the earliest domestic enterprises specializing in the thermal power plant flue gas treatment and electric power environmental protection, as well as the largest desulfurization and denitrification project service provider and franchised company in PRC.

As of 31 December 2021, Longyuan Environmental recorded a 100% commissioning rate of its desulfurization devices, with an annual average desulfurization efficiency of 99.02% and an average denitrification efficiency of 88.53%. It also saw a 100% up-to-standard COD and ammonia nitrogen emission rate. Its total installed capacity of desulfurization concession projects is 15,740 MW and that of denitrification concession projects is 11,840 MW. The details are as follows:

### 2.1.1 環保與節能解決方案板塊

#### 環保業務

龍源環保是國內最早專業從事火電廠煙氣治理和電力環保產業的企業之一，是中國最大的脫硫脫硝工程服務商和特許經營公司。

截至2021年12月31日，龍源環保所屬脫硫裝置投運率100%，年平均脫硫效率99.02%，平均脫硝效率88.53%；COD、氨氮達標排放率100%。脫硫特許經營項目總裝機容量為15,740兆瓦，脫硝特許經營項目總裝機容量為11,840兆瓦，具體情況如下：

Desulfurization concession projects 脫硫特許經營項目		Desulfurization operation and maintenance projects 脫硫運營維護項目	
Total installed capacity 總裝機容量 (MW) (兆瓦)	SO <sub>2</sub> removed in 2021 2021年脫除二氧化硫 (ton) (噸)	Total installed capacity 總裝機容量 (MW) (兆瓦)	SO <sub>2</sub> removed in 2021 2021年脫除二氧化硫 (ton) (噸)
15,740	484,800	22,170	775,500
Denitrification concession projects 脫硝特許經營項目		Denitrification operation and maintenance projects 脫硝運營維護項目	
Total installed capacity 總裝機容量 (MW) (兆瓦)	Nitrogen oxides removed in 2021 2021年脫除氮氧化物 (ton) (噸)	Total installed capacity 總裝機容量 (MW) (兆瓦)	Nitrogen oxides removed in 2021 2021年脫除氮氧化物 (ton) (噸)
11,840	60,800	7,620	52,700

## ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED)

### 環境、社會及管治報告(續)

In the first half of 2021, Lucency disposed of several water plants of its subsidiary Galaxy Water. Currently, it operates 4 sewage treatment plants (stations) involving the sewage treatment and reclaimed water operation business, with a designed treatment capacity of 200,000 t/d. The water product of the sewage treatment plant was discharged after meeting the discharge and reuse standards stipulated in the applicable laws, regulations and standards such as the Discharge Standard of Pollutants for Municipal Wastewater Treatment Plant (GB18918-2002), the Reuse of Urban Recycling Water – Water Quality Standard for Urban Miscellaneous Use (GB/T19820-2002), etc., or was reused by the industrial enterprises such as power plant after further retexturing. Through the water operation mode, as of 31 December 2021, the sewage treatment plant had treated 105 million tons of sewage(including reclaimed water).

In order to promote the transformation and upgrade of old wind farms and effectively improve the accuracy of data required for the technical upgrade and transformation of these wind farms, Longyuan Engineering applied the complete machine reverse reconstruction technology developed in 2021 into 4 types of models in 5 old wind farms. This provides new ideas for the construction of wind power equipment digital assets, offers important technical and data support for the transformation of old wind farms and steps up the construction of wind power equipment digital assets.

#### *Energy conservation solutions business*

The Group has highlighted the key role of science and technology advancement in energy conservation and emission reduction and made full use of its advantages in industrial technology and management.

2021年上半年，朗新明處置了附屬公司銀河水務的數家水廠，目前運營的污水處理廠(站)有4座，涉及污水、中水運營業務，處理設計能力20萬噸/天。污水處理廠的產品水在達到國家頒佈的《城鎮污水處理廠污染物排放標準(GB18918-2002)》、《城市污水再生利用城市雜用水水質(GB/T19820-2002)》等相關法律規範中要求的排放、回用標準後排放，或進一步再生處理後回用到電廠等工業企業。通過水務運營方式，截至2021年12月31日，污水處理廠處理污水(含中水)10,500萬噸。

為促進老舊風場改造升級，有效提升老舊風場技術升級改造所需數據的精準性，龍源工程2021年度所研發的整機逆向重構技術成功應用於5個老舊風電場4種機型中，為風電設備數字資產建設提供了新思路，為老舊風場改造提供重要技術與數據支撐，加速風電設備數字資產建設步伐。

#### *Energy conservation solutions business*

本集團重視科技進步在節能減排中的關鍵作用，充分發揮產業技術和管理優勢。



## ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED)

### 環境、社會及管治報告(續)

Under the guidance of the country's industrial policies related to energy conservation and emission reduction, Longyuan Technology has, based on the pulverized coal combustion and boiler energy conservation and environmental protection field, gradually developed a great variety of business segments. These include coal-fired boiler fuel-saving ignition, boiler combustion transformation, comprehensive utilization of excess heat, intelligent combustion, comprehensive utilization of urban clean energy, waste-coupled power generation, numerical model and simulation, energy storage and peak load regulation, energy conservation and environmental protection in non-electricity field, energy field investment, etc. The first-generation ammonia-mixed low-nitrogen pulverized coal burner developed independently by Longyuan Technology was tested on a full-scale ammonia-mixed combustion test on a 40MWth combustion test platform, with an ammonia burnout rate of 99.99%, during which the nitrogen oxide was also effectively controlled. This provides a feasible technical development direction for CO<sub>2</sub> emission reduction of China's coal-fired generator units, and will play a significant role in promoting China's strategic goals of carbon peaking and carbon neutrality.

#### *Power station EPC*

Longyuan Engineering is the power station EPC construction platform of the Group, which has 73 patents in the fields of biomass power generation, solar thermal power generation, cold-end optimization of thermal power units, waste heat utilization of thermal power plants, and high-sodium coal combustion, etc. It has the Power Engineering Construction General Contracting Grade I Qualification, Engineering Supervision Grade B Qualification, Bidding Agency Grade A Qualification, Engineering Consulting Grade C Qualification, and Technology and Product Import and Export Qualifications. As a national high-tech enterprise, it has passed the Three Standards (quality, environment, occupational health and safety) In One Management System Certification and the Nuclear Industry Quality Management System Certification, and has also passed the certification of Work Safety Standardization Grade I of China Electric Power Construction Association (CEPCA).

龍源技術以國家節能減排產業政策為導向，立足煤粉燃燒和鍋爐節能環保領域，逐步發展形成燃煤鍋爐節油點火、鍋爐燃燒改造、餘熱綜合利用、智能燃燒、城市清潔能源綜合利用、垃圾耦合發電、數模與仿真、蓄能調峰、非電領域節能環保、能源領域投資等業務板塊。由其自主開發的第一代混氨低氮煤粉燃燒器，在40MWth燃燒試驗平台上進行全尺度了混氨燃燒試驗，氨燃盡率99.99%，同時實現氮氧化物有效控制。為我國燃煤機組實現CO<sub>2</sub>減排提供了具有可行性的技術發展方向，對我國實現碳達峰、碳中和的戰略目標有重大促進作用。

#### *電站EPC*

龍源工程是本集團電站EPC的建設平台，擁有生物質發電、光熱發電、火電機組冷端優化、火電廠餘熱利用、高鈉煤燃燒等領域專利73項，具備電力工程施工總承包一級資質、工程監理乙級資質、招標代理甲級資質、工程諮詢丙級資質、技術和產品進出口資格，是國家高新技術企業，通過了三標一體(質量、環境、職業健康安全)管理體系認證和核工業質量管理體系認證，取得了中國電力建設企業協會安全生產標準化一級達標認證。

# ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED)

## 環境、社會及管治報告(續)

### 2.1.2 Segment of Renewable Energy Equipment Manufacturing and Services

#### WTG products and services

The Group's branch Chifeng Wind Power is the Group's wind-light power generation and operation enterprise. In 2021, the branch's wind and photovoltaic power generation totaled 306.89 million kwh, equivalent to 272,100 tons of CO2 emission reduction.

As the major platform of Guodian Technology & Environment Group Corporation Limited to develop its new energy industries, Wangkui New Energy actively promotes the development of wind power, centralized and distributed photovoltaic projects. These efforts will provide a strong guarantee for China's overall goal of carbon peaking and carbon neutrality. To our delight, the first phase of the wind power project in Miaoxiang Mountain, Wangkui County, Heilongjiang Province has been connected to the grid at the end of this year.

### 2.1.3 International Development

Based on the well-known brand effect, scientific project management and good quality reputation, the Group has sped up its entry into the international market. The plasma ignition devices of the company have entered the markets of South Korea, Russia, Indonesia, Turkey and Zimbabwe, etc. The wind turbine equipment of the company has entered the markets of the United States and South Africa. The company's seawater desulfurization business has entered the markets of Sri Lanka, Philippines, Cambodia, Turkey and Indonesian, etc., and environmentally friendly equipment entered the markets of Vietnam, Indonesia, Bangladesh, Pakistan and Japan etc. Its automatic control systems and engineering services have entered the markets of India, Indonesia, Pakistan and Africa.

### 2.1.2 可再生能源製造及服務板塊

#### 風機產品及服務業務

本集團分公司赤峰風電是本集團風光發電運營企業，2021年全年風力和光伏發電30,689萬千瓦時，相當於減排二氧化碳27.21萬噸。

作為科環集團發展新能源產業的主要平台，望奎新能源積極推進風電、集中式光伏和分布式光伏項目的開發，為國家碳中和碳达峰總體目標實現提供有力保障，其投資建設的黑龍江望奎妙香山風電項目一期已於本年底並網。

### 2.1.3 國際化發展

本集團憑藉著名的品牌效應、科學的項目管理及良好的質量信譽加快向國際市場邁進的步伐。等離子體點火裝置進入韓國、俄羅斯、印尼、土耳其及津巴布韋等市場。風機設備進入美國及南非市場。海水脫硫進入斯里蘭卡、菲律賓、柬埔寨、土耳其及印尼等市場，環保設備進入越南、印尼、孟加拉、巴基斯坦、日本等市場。自動化控制系統及工程服務進入印度、印尼、巴基斯坦及非洲市場。

## ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED)

### 環境、社會及管治報告(續)

#### 2.2 Reducing Resource Consumption and Adhering to the Concept of Resource Saving

The Group adheres to the concepts of green development, strictly implements China's environmental protection laws and regulations, and adheres to the coordinated development between the company's interest and energy conservation & environmental protection. With "Energy Conservation, Consumption Reduction, Emission Reduction, Efficiency Increase" as the goal, the Group strengthens the scientific management and scientific utilization of energy and constantly improves the energy utilization rate, so as to make the Group a conservation-oriented and technology-based enterprise.

As an advanced environmental protection service company, the Group, except for attaching great importance to energy conservation services in the Group's own business operation, also takes very seriously of resource saving in its production and operation processes, and strictly abides by the Environmental Protection Law of PRC, the Water Law of PRC, Energy Conservation Law of PRC and other laws and regulations, requires all subsidiaries to use energy reasonably and effectively, to reduce costs, improve comprehensive benefits, and to formulate energy conservation management systems based on their own business characteristics. Under the call of the Group, Chifeng Wind Power has formulated the "Resources and Energy Economical Use Management System", Longwei Power Generation Technology Service Co., Ltd., a subsidiary of Longyuan Energy Conservation, has formulated the "Energy Conservation and Consumption Reduction Management Regulations", Longyuan Technology has formulated the "Energy and Resource Control Procedure", which cover management measures including energy saving, fuel saving and water saving. The Group also implemented energy conservation and consumption reduction management in accordance with the requirements of Health, Safety, and environment Three-in-one Management System (the "**HSE Management System**"). By establishing and reinforcing the applicable rules and regulations, the Group has effectively stimulated saving actions, restrained waste, and continuously optimized the external and internal environment for the construction of a conservation-oriented enterprise, thus forming a long-term mechanism for resource conservation and ensuring continuous deepening of the construction of a conservation-oriented enterprise.

#### 2.2 減少資源消耗奉行節約理念

本集團秉承綠色發展理念，嚴格遵照我國環境保護相關法律法規執行，堅持公司利益與節能環保協同發展，以「節能、降耗、減排、增效」為目標，加強能源的科學管理，科學利用，不斷提高能源利用率，使本集團成為節約型、科技型企業。

本集團作為先進的環保服務企業，除了在經營業務中提供節能服務外，在自身的生產運營過程中也非常重視節約資源，嚴格遵守《中華人民共和國環境保護法》、《中華人民共和國水法》、《中華人民共和國節約能源法》等法律法規，要求各附屬公司合理、有效地利用能源，降低成本，提高綜合效益，並結合自身業務特點制定節能管理制度。在本集團的號召下，赤峰風電制訂了《資源及能源節約使用管理制度》，龍源節能附屬公司北京國能龍威發電技術有限公司制定了《節能降耗管理規定》，龍源技術制定了《能資源控制程序》，內容涵蓋節電、節油、節水等管理措施。本集團還根據健康Health、安全Safety、環境Environment三位一體管理體系（「**HSE管理體系**」）要求實施節能降耗管理。本集團通過制定和執行有關制度，有效地激勵節約，遏止浪費，不斷優化建設節約型企業的外部環境和內部環境，從而形成節約資源的長效機制，保證節約型企業建設工作持續深入開展。

# ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED)

## 環境、社會及管治報告(續)

### 2.2.1 Energy Management

The Group's energy consumption in the production and operation processes mainly includes: electricity, gasoline, diesel and natural gas, etc. Power consumption mainly comes from the production processes of wind turbines, blades, desulfurization catalysts and other products; the debugging of large automation systems and other equipment; the running of project construction lighting system, motors and welding machines; the operation of the wind farm equipment and office power supply, etc. The gasoline consumption mainly comes from the use and maintenance of commercial vehicles and equipment inspection and repair vehicles. Diesel consumption mainly comes from the product transport vehicles for wind turbines, blades, desulfurization catalysts and so on, and from the running of power station diesel generators. Natural gas consumption mainly comes from the daily catering of the company dining hall.

### 2.2.1 能源管理

本集團在生產運營過程中消耗的能源主要包括：電、汽油、柴油和天然氣等。電耗主要來自於風機、葉片及脫硫催化劑等產品生產過程；大型自動化控制系統等設備調試；項目施工照明、電動機和電焊機運轉；風電場設備運行和辦公室用電等。汽油消耗主要來自於商務車和設備檢修車使用和維護。柴油消耗主要來自於風機、葉片及脫硫催化劑等產品運輸車輛和電場柴油發電機運轉。天然氣消耗主要來自於公司食堂日常餐飲使用。

Performance Indicators 績效指標	2021	2020	2019
Total power consumption (kwh) 總耗電量(千瓦時)	<b>78,436,733.00</b>	635,185,323.50	1,632,184,569.12
Gasoline consumption (ton) 汽油消耗量(噸)	<b>317.97</b>	869.48	1,434.69
Diesel consumption (ton) 柴油消耗量(噸)	<b>24.34</b>	35.36	48.42
Natural gas consumption (normal m <sup>3</sup> ) 天然氣消耗量(標準立方)	<b>787,721.00</b>	16,254.90	162,307.00
Comprehensive energy consumption (thousand kwh) 綜合能源消耗量(千個千瓦時)	<b>91,056.72</b>	646,190.22	1,651,691.69
Comprehensive energy consumption intensity (kwh/10,000 yuan of revenue) 綜合能源消耗強度(千瓦時/萬元營收)	<b>75.42</b>	413.58	1,304.76
Total greenhouse gas emissions (tCO <sub>2</sub> e) 溫室氣體總排放量(噸二氧化碳當量)	<b>48,977.13</b>	390,338.17	1,000,699.75
Direct greenhouse gas emissions (tCO <sub>2</sub> e) <sup>1</sup> 直接溫室氣體排放量(噸二氧化碳當量) <sup>1</sup>	<b>1,122.87</b>	2,811.60	4,903.95
Indirect greenhouse gas emissions (tCO <sub>2</sub> e) <sup>2</sup> 間接溫室氣體排放量(噸二氧化碳當量) <sup>2</sup>	<b>47,854.25</b>	387,526.57	995,795.81
Greenhouse gas emission intensity (tCO <sub>2</sub> e)/10,000 yuan of revenue) 溫室氣體排放強度(噸二氧化碳當量/萬元營收)	<b>0.04</b>	0.25	0.79

- 1 Basis of calculation: The gasoline, diesel and natural gas consumed by the Company.
- 2 Basis of calculation: The total power consumption of the Company and the outsourced heat.

- 1 計算依據：根據本公司消耗汽油、柴油、天然氣計算得出。
- 2 計算依據：根據本公司總耗電量以及外購熱力計算得出。

## ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED)

### 環境、社會及管治報告(續)

The Company will align itself with the requirements of China's 3060 Target, namely, achieving carbon peaking by 2030 and carbon neutrality by 2060. That means it will continue to promote the application of energy conservation technologies and energy transformation in order to reduce the comprehensive energy consumption intensity and greenhouse gas emission intensity. Each subsidiary of the Group, in order to strictly implement the energy management system, has established a relevant responsible department to manage energy and developed its energy management plan according to the concrete conditions.

In order to ensure the rational use of its resources and energy, Longyuan Energy Conservation has kept its indicators of consumption of resources and energy to a minimum and formulated the Energy Conservation and Consumption Reduction Management Regulations. It requires the whole company to carry out staff publicity and education, and to enhance staff awareness of economy through the posting of publicity boards, meetings, documents, board newspapers and other forms. At the same time, the company is required to select energy-saving lamps, and the office lamps shall be turned off and electric appliances shall be shut off when people leave the office, etc. Moreover, the company carries out the supervision and inspection on the energy conservation and consumption reduction every quarter, and implements rectification measures for the problems discovered.

#### 2.2.2 Water Resource Management

The water consumed by the Group is mainly the production water for technological processes, equipment cleaning, etc., domestic water for catering, toilets, bathrooms, etc., and water for lawns and fire control, etc. The Group has not identified significant risks of water shortages in terms of seeking suitable sources of water.

本公司將對標3060碳達峰碳中和工作要求，持續推動節能技術應用及能源轉型，以降低綜合能源消耗強度及溫室氣體排放強度。為嚴格執行能源管理制度，各附屬公司均設立相關責任部門進行能源管理工作，並根據具體情況制定管理方案。

龍源節能為保證公司資源、能源的合理使用，將資源、能源消耗指標控制到最低，制定有《節能降耗管理規定》。要求在全公司範圍內，開展員工宣傳教育，通過張貼宣傳牌、會議、文件、板報等形式提升員工節約意識。同時，要求公司選用節能照明燈具，辦公室照明燈做到人走隨手關燈，電器人走關機斷電斷閘等。同時公司每季度對節能降耗情況進行監督檢查，並對發現的問題進行實施整改。

#### 2.2.2 水資源管理

本集團主要耗水產生在工藝及清洗設備等生產用水，餐飲、廁所及澡堂等生活用水及澆灌草坪和消防用水等。在求取適用水源方面，本集團尚未發現水資源短缺的重大風險。



# ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED)

## 環境、社會及管治報告(續)

Performance Indicators 績效指標	2021	2020	2019
Total water consumption ( $m^3$ ) 總耗水量(立方米)	<b>2,978,959,175.84</b>	12,266,014.31	24,246,352.56
Industrial water consumption ( $m^3$ ) 工業耗水量(立方米)	<b>2,978,860,561.00</b>	12,101,065.35	23,850,533.00
Office area water consumption ( $m^3$ ) 辦公區耗水量(立方米)	<b>66,483.84</b>	163,948.96	212,275.52
Headquarter building water consumption ( $m^3$ ) 本部辦公樓耗水量(立方米)	<b>32,131.00</b>	36,173.00	42,773.00
Office area water consumption per capita ( $m^3/person$ ) 辦公區人均耗水量(立方米/人)	<b>16.12</b>	16.33	19.44
Number of employees ( <i>person</i> ) 員工人數(人)	<b>1,520.00</b>	2,215.00	2,200.00
Domestic sewage discharge ( $m^3$ ) <sup>3</sup> 生活污水排放量(立方米) <sup>3</sup>	<b>26,701.00</b>	49,720.70	3,039,732.40

3 In 2019, Lucency and Jiangsu Longyuan Catalyst Co., Ltd. were included into the statistics of the domestic sewage discharge for the first time, thus the data was increased substantially.

3 2019年度，生活污水排放量首次將朗新明及江蘇龍源催化劑有限公司納入統計範疇，因此排放量有較大幅度增加。

According to the requirements of the Group's water resource management system, the office of each subsidiary is responsible for the water resource management of the Group and its duties are as follows: to implement the national laws and regulations on water resource management; to formulate the water resource management system; to implement responsibilities and supervise the implementation; to work out the water resource management plan and annual plan in conjunction with the relevant departments; to establish and improve water resource metering facilities and management account books; to promote water-saving measures; to promote the application of new water-saving technologies and new technological processes, etc.

根據本集團水資源管理制度的要求，由各附屬公司辦公室負責本集團水資源管理工作，其職責包括：執行國家有關水資源管理的法律、法規，制定水資源管理制度，落實責任並監督執行；會同有關部門編製水資源管理規劃和年度計劃；建立和完善水資源計量設施、管理台帳，推行節水措施，推廣應用節水新技術及新工藝等。

## ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED)

### 環境、社會及管治報告(續)

The Group will make continuous and greater efforts to save water and reduce water consumption. In terms of water conservation, the Group mainly takes the following measures: to raise employees' awareness of water conservation through training and publicity; to improve wastewater recycling rate; to strengthen routine maintenance and management of water equipment, repair damaged water supply facilities in time, and regularly check and replace water supply devices such as faucets, pipeline valves, and flushing valves. The water for flushing and cleaning the office building of the Group's headquarters is reclaimed water purchased from the park, which has saved municipal water resources.

本集團將持續加強節水工作力度，持續降低用水強度。在節約用水方面，本集團的主要措施包括：培訓及宣傳提高員工節約用水意識；提高廢水的回收利用率；加強用水設備的日常維護和管理，及時維修損壞的供水設施，定期檢查更換水龍頭、管道閥門及衝水閥等供水器具。本集團總部辦公樓所衝水和保潔用水均採購園區中水，節約了市政水資源。

#### 2.2.3 Use of Packaging Materials

The packaging waste produced during the operation of the Group includes fabric, carton, plastic film, fixed steel supporting structure, wooden box, batten, ceramic fiber product, winding film, etc.

#### 2.2.3 包裝物使用

本集團運營過程中產生的包裝廢棄物包括：織物、紙箱、塑料薄膜、固定支撐鋼結構、木箱、木方、陶瓷纖維製品及纏繞膜等。

Performance Indicators 績效指標	2021	2020	2019
Total weight of packaging materials (ton) 包裝物總重量(噸)	114.05	569.38	6,515.52
Plastic (ton) <sup>4</sup> 塑料(噸) <sup>4</sup>	2.17	3.95	3,067.62
Fabric (ton) 織物(噸)	–	1.18	7.10
Fixed steel supporting structure (ton) 固定支撐鋼結構(噸)	2.17	6.30	7.48
Wooden box (ton) 木箱(噸)	97.61	545.43	3,390.10
Carton (ton) 紙箱(噸)	12.1	12.40	40.22
Others (ton) 其他(噸)	–	0.12	3.00
Consumption intensity of packaging (tone/10,000 yuan of revenue) 耗用包裝物密度(噸/萬元營收)	0.00009	0.00036	0.00052

4 In 2019, Jiangsu Longyuan Catalyst Co., Ltd. was included in the packaging materials scope, thus the data was increased substantially.

4 2019年度，包裝物使用量首次將江蘇龍源催化劑有限公司納入統計範疇，因此使用量有較大幅度增加。

## ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED)

### 環境、社會及管治報告(續)

Every subsidiary of the Group, in respect of the management of packaging materials, has established relevant management rules and regulations, such as Longyuan Electrical's Packaging Use Management System, covering procurement management, goods warehousing acceptance, storage and keeping, material requisition and replacement of old production consumables with the new ones. A number of subsidiaries of the Group have cooperated with packaging companies that are responsible for the management of packaging materials.

The Group's subsidiaries have adopted a series of management measures, which can be divided into procurement and use, in order to save the use of packaging materials and reduce the amount of packaging waste generated:

- In terms of procurement, the subsidiaries strictly follow the national and industrial regulations such as Frame Wooden Box (GB/T7284-1998), Single and Double Corrugated Boxes for Transport Packages" (GB/T6543-2008), and purchase packaging materials that meet the requirements and are less harmful to the environment.
- In terms of the use of packaging materials, the company uses the original packaging for some products whose volume has not changed, and changes the packaging of some models from the independent one to the integrated one, which reduces the number of packaging materials used. Under the premise of meeting the requirements of packaging strength, the packaging size and materials of all products of the company are used in the minimum amount. Through the optimization of packaging processes, the company reduces the number of packaging materials used. Meanwhile, the company also picks out the recyclable packaging boxes for the delivery of spare parts, and returns some of the relatively intact packaging materials to the manufacturers for reuse. In addition, the company requires recycling the whole machine gearboxes and motor packing boxes for the packaging of distribution cabinets.

本集團各附屬公司針對包裝材料的管理，制定了相關管理制度，如龍源電氣制定《包裝使用管理制度》等，內容包括採購管理、物品入庫驗收、倉庫保管、物料領用及生產耗材的以舊換新等制度。本集團多家附屬公司與包裝公司合作，並由包裝公司負責包裝材料的管理。

本集團各附屬公司採取了一系列管理措施，致力於節約包裝材料的使用和減少包裝廢棄物的產生量，具體可分為採購和使用兩方面：

- 在採購方面，附屬公司嚴格按照《框架木箱》(GB/T7284-1998)、《運輸包裝用單瓦楞紙箱和雙瓦楞紙箱》(GB/T6543-2008)等國家、行業相關規定，採購符合要求且對環境危害小的包裝材料。
- 在包裝材料的使用方面，公司對於部分體積未發生改變的產品使用原包裝箱進行包裝，部分機型產品由獨立包裝改為一體式包裝，降低了包裝材料用量；在滿足包裝強度要求的前提下，對所有產品的包裝尺寸、用料都採用了最小的用量；通過包裝工藝的優化，減少包裝材料用量。同時公司還將可循環利用的包裝箱篩選出來，用於備件的發貨，將部分較完好的包裝材料，返還給廠家以重複利用等。此外，要求對整機齒箱、電機包裝箱進行回收利用，用於配電櫃包裝。

# ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED)

## 環境、社會及管治報告(續)

### 2.3 Reducing Pollution Emissions and Implementing Scientific Management

The Group strictly abides by the Environmental Protection Law of PRC, the Law on the Prevention and Control of Environmental Pollution by Solid Wastes of PRC, the Air Pollution Prevention and Control Law of PRC, and other relevant laws and regulations. Guided by the 14th Five-Year Plan for Ecological Environment Protection, the Group strives to reduce the impact of various kinds of waste on the environment, strictly regulates waste emission management, and reasonably carries out recycling and utilization and safe disposal of waste, with the ultimate goal of reducing waste emission. In 2021, there were no environmental violations that had a significant impact on the Group.

#### 2.3.1 Hazardous Waste Management

The main hazardous waste produced in the production and operation of the Group includes waste lubricant, grease, hydraulic oil, organic solvent, etc., and office generated waste toner cartridge, ink cartridge, scrapped office electronics, etc.

### 2.3 降低污染排放施行科學管理

本集團嚴格遵守《中華人民共和國環境保護法》、《中華人民共和國固體廢物污染環境防治法》、《中華人民共和國大氣污染防治法》等法規，以國家《「十四五」生態環境保護規劃》為指導，高度重視各類廢棄物對環境的影響，嚴格規範廢棄物的排放管理，以減少廢棄物排放為最終目標，合理開展廢物回收利用和安全處置工作。2021年未發生對本集團有重大影響的環境違規事件。

#### 2.3.1 有害廢棄物管理

本集團在生產運營中產生的主要有害廢棄物包括：廢潤滑油、潤滑脂、液壓油、有機溶劑等及辦公產生的廢硒鼓、墨盒、報廢的辦公電子產品等。

Performance Indicators 績效指標	2021	2020	2019
Total weight of hazardous waste (ton) 有害廢棄物產生總重量(噸)	8.16	1,386.60	89.66
Waste lubricant (ton) 廢潤滑油(噸)	2.19	15.22	1.48
Grease (ton) 潤滑脂(噸)	0.03	0.58	0.66
Hydraulic oil, etc. (ton) 液壓油等(噸)	0.08	1.71	0.26
HW06 organic solvent waste (ton) HW06有機溶劑廢物(噸)	0.15	0.01	0.00
HW13 organic resin waste (ton) HW13有機樹脂類廢物(噸)	4.19	5.53	12.58
Collected hazardous waste dust (ton) 收集含有害廢物粉塵(噸)	0.00	0.00	16.41
Other hazardous wastes (ton) 其他有害廢棄物(噸)	1.52	270.42	58.27
Hazardous waste generation intensity (ton/10,000 yuan of revenue) 有害廢棄物產生強度(噸/萬元營收)	0.0000068	0.00089	0.00007

## ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED)

### 環境、社會及管治報告(續)

For hazardous wastes, the Group's subsidiaries have established relevant management systems and methods, and the relevant departments of each subsidiary are responsible for the specific management of waste. In the future, the Group will also strengthen the management of hazardous waste minimization.

Longyuan Engineering has strictly implemented relevant regulations and established relevant management systems and methods, like the Waste Management and Control Measures. For waste toner cartridges and ink cartridges, scrapped office electronics, and other wastes, Longyuan Engineering designates a specific department for the unified and centralized collection and disposal of such wastes and appoints specific personnel to collect such wastes, store them separately in a fixed place and make proper records, and have such wastes clearly marked and classified, in order to strictly prevent hazardous wastes from unauthorized direct discharge into water or soil. In respect of the centralized disposal of hazardous wastes, Longyuan Engineering appoints a qualified disposal unit for the centralized disposal; and the office waste toner cartridges are reclaimed, reused or disposed of by the seller. Waste computers, displays, etc. are collectively disposed of by a qualified professional unit pursuant to the applicable regulations.

#### 2.3.2 Non-hazardous Waste Management

The non-hazardous waste produced in the operation of the Group includes domestic waste, sludge produced in the production process of sewage treatment plants, steel scrap and iron chip produced in mechanical processing, packaging waste, and industrial sewage pollutant from the production of catalysts.

針對有害廢棄物，本集團各附屬公司建立相關的管理制度和辦法，並由各附屬公司相關部門負責廢棄物的具體管理。未來，本集團還將加強對有害廢棄物減量化管理。

龍源工程嚴格執行有關規定，建立相關的管理制度和辦法，如《廢棄物管理控制辦法》，針對廢硒鼓、墨盒、報廢的辦公電子產品等廢棄物均由指定部門統一集中收集和集中處置，專人負責收集廢硒鼓、墨盒、報廢的辦公電子產品，在固定場所分類存放並做好記錄，清晰的標識和分類標識，嚴防有害廢棄物不經收集隨意排入水體或土壤。對於有害廢棄物集中處置，龍源工程由專門有資質的處置單位進行集中處置；辦公廢棄物硒鼓由銷售單位進行回收再利用或處置。按照有關規定，將廢計算機、顯示器等交由有資質的專業單位集中處置。

#### 2.3.2 無害廢棄物管理

本集團在運行過程中產生的無害廢棄物包括：生活垃圾、污水處理廠生產過程中產生的污泥、鋼材下腳料和機械加工產生的鐵屑、包裝廢棄物及催化劑生產的工業污水污染物。

## ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED)

### 環境、社會及管治報告(續)

Longyuan Engineering has strictly implemented the relevant provisions on the disposal of non-hazardous waste, classified office waste and construction waste into recyclable and non-recyclable wastes, and conducted the sorted collection for them, and finally transferred them to a cleaning company for further disposal. In order to reduce the number of office wastes such as paper, the Company advocates that the employees should use paper on both sides and also advocates paperless office operation. With regard to construction waste generated by construction projects, each project has set up a designated area for the storage of construction waste, appointed special persons to manage it, and regularly handed it over to the local unit with the qualification of recycling and disposal for recycling and reuse.

Longyuan Technology effectively controls the disposal of non-hazardous waste through the Solid Waste Control Procedures, and each waste generating department is responsible for sorting, collecting and transferring the waste generated during work to the storage place. The general manager's work department is responsible for managing non-hazardous waste and handing it over to the qualified processor for disposal.

In the future, the Group will further strengthen the management of solid waste, take measures to reduce the generation of waste from the source, and improve the recycling of wastes that can be recycled and reused, so as to reduce the number of wastes and their impact on the environment as much as possible.

龍源工程嚴格執行有關無害廢棄物處置規定，對辦公垃圾和施工建築垃圾無害廢棄物進行分類，分為可回收、不可回收垃圾，並分類收集交由保潔公司處理。辦公垃圾中如紙張等，為了減少這部分垃圾的產生量，本公司提倡員工雙面用紙，倡導無紙化辦公。關於工程建設項目產生的建築垃圾，各項目均設置建築垃圾存放指定區域，設專人管理，定期交由當地具有回收處置資質的單位進行回收再利用。

龍源技術通過《固體廢棄物控制程序》對無害廢棄物的處置進行有效管控，各廢棄物產生部門負責對本部門工作過程中產生的廢棄物進行分類、收集，並送往貯存場所。總經理工作部負責對無害廢棄物進行管理，並交有資格的處理商處理。

未來本集團仍將進一步加強固體廢棄物的管理，從根源上採取措施減少廢棄物的產生，對於可回收再利用的廢棄物，加大循環再利用的程度，以此更大程度的減少廢棄物的數量及對環境造成的影響。

# ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED)

## 環境、社會及管治報告(續)

Performance Indicators 績效指標	2021	2020	2019
Total weight of non-hazardous waste (ton) 無害廢棄物產生總重量(噸)	<b>118,656.00</b>	230,646.00	238,760.63
Sludge from domestic sewage treatment plants (ton) 生活污水處理廠產生污泥(噸)	<b>118,408.39</b>	227,000.10	237,000.10
Industrial sewage pollutant COD (ton) 工業廢水污染物COD(噸)	<b>0.12</b>	0.69	0.77
Industrial sewage pollutant ammonia nitrogen (ton) 工業廢水污染物氨氮(噸)	<b>0.01</b>	0.03	0.05
Dust collected (ton) 收集粉塵(噸)	<b>7.18</b>	28.09	139.80
Scraps cut (ton) 切割邊角料(噸)	<b>154.8</b>	2,093.50	1,282.70
Domestic garbage (ton) 生活垃圾(噸)	<b>84.0</b>	271.50	260.80
Paper (ton) 紙張(噸)	<b>1.50</b>	3.60	4.90
Non-hazardous waste generation intensity (ton/10,000 yuan of revenue) 無害廢棄物產生強度(噸/萬元營收)	<b>0.10</b>	0.15	0.19

### 2.3.3 Exhaust Gas Management

The Group will generate a small amount of exhaust gas during its operation, including sulfur dioxide, nitrogen oxides and particulate matter, which is mainly from the gasoline and diesel burned by the company's official vehicles, as well as emissions from part of the production processes. Such a small amount of exhaust gas generated by the Group during its operation has minor impacts on the environment.

### 2.3.3 廢氣管理

本集團在運營過程中會產生少量的廢氣，包括：二氧化硫、氮氧化物和顆粒物，這主要是來自於公司公務用車燃燒汽油和柴油，及部分生產過程中排放的廢氣。本集團在運營過程中所產生的廢氣較少，對環境影響較小。

Performance Indicators 績效指標	2021	2020	2019
Sulfur dioxide emissions (ton) 二氧化硫排放量(噸)	<b>0.01</b>	0.03	0.12
Nitrogen oxides emissions (ton) 氮氧化物排放量(噸)	<b>0.72</b>	1.94	23.00
Particulate matters emissions (ton) 顆粒物排放量(噸)	<b>5.07</b>	12.45	3.97

## ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED)

### 環境、社會及管治報告(續)

#### 2.4 Focusing on Ecology and Pursuing Sustainable Development

The Group integrates the environmental protection idea of harmonious symbiosis with nature into every stage of production and management and strives to develop business without burdening the ecological environment. Each subsidiary keeps a watchful eye on the impact of noise and soil erosion on the ecological environment and takes effective preventive measures to avoid and reduce these adverse effects.

Dayuying Wind Farm of Chifeng Wind Power is located at Dayuying, Chifeng City, Inner Mongolia, where there are rich wind resources. As of December 31, 2021, this wind farm had 66 units of 1,500 kW wind turbines and 20 MW PV power generation equipment. Heilongjiang Wangkui Phase-I 100 MW Wind Power Generation Project of Wangkui New Energy has been successfully connected to grid by December 31, 2021.

In terms of noise, after attenuation of the noise generated during the construction, the noise level of the construction machinery outside the range of 20 meters stays within the daytime noise limit specified in the Environmental Noise Emission Standard for Construction Site Boundary (GB12523-2011), and that outside 90 meters within night noise limit. There is the silent environmental protection target within 200 meters of the construction site and the noise impact characteristics of the project are both short-term and temporary, and the construction noise will end as the construction activity ends. The main noise source during the operation period of the wind farm is the noise generated by the operation of the booster station and the rotation of the wind turbines, which can reach the Class 1 Standard requirements of the Environmental Noise Emission Standard for Industrial Enterprises Boundary (GB12348-2008) after the effective control through the adoption of low-noise equipment, having fewer impacts on the surrounding acoustic environment.

In terms of ecological maintenance, the impact of the project construction period and operation period on the ecological environment is mainly reflected in the destruction of vegetation and soil erosion, and so on. By rationally planning the construction site operations and formulating post-construction ecological restoration programs, the company can reduce its disturbance to local vegetation, water, soil and birds, and has limited impact on the natural ecology. At the same time, there is a small number of pollutants generated during the operation, and all pollutants can meet the discharge standard after corresponding treatment measures are taken. The project has achieved energy conservation and consumption reduction, and reduced the impact of pollutant emissions on the surrounding environment.

#### 2.4 關注生態健康推動持續發展

本集團將與自然和諧共生的環保理念融入到生產經營的各個階段，力求在業務發展的同時不為生態環境帶來負擔。各附屬公司十分關注噪聲、水土流失等對生態環境影響，採取了有效的防治措施，以避免並減少這些不利影響。

赤峰公司大於營風光電場位於內蒙古赤峰市大於營，該地區風力資源豐富。截至2021年12月31日，電場擁有66台1,500千瓦容量風力發電機組和20兆瓦容量光伏發電設備。科環新能源黑龍江望奎一期100兆瓦容量風力發電項目，已於2021年12月31日底前順利並網。

噪聲方面，施工階段產生的噪聲經衰減後，施工機械作業噪聲在20米範圍外噪聲值可以達到《建築施工場界環境噪聲排放標準》(GB12523-2011)規定的晝間噪聲限值，90米範圍外可以達到夜間噪聲限值。該項目施工現場200米範圍內無聲環境保護目標，噪聲影響特點為短期性、暫時性，施工活動結束，施工噪聲也就隨之結束。電場運營期主要噪聲源為升壓站運行過程及風機風輪旋轉產生的噪聲，在採取低噪聲設備等有效控制後能達到《工業企業廠界環境噪聲排放標準》(GB12348-2008)中的1類標準的要求，對周圍聲環境影響較小。

生態維護方面，項目施工期、運行期對生態環境的影響主要表現在破壞植被、水土流失等。公司通過合理規劃施工現場作業以及制定施工後生態修復方案等方式，能夠減低對當地植被、水土、鳥類的干擾，對自然生態的影響較小。同時，運營期間污染物產生量較少，各污染物經採取相應治理措施後均能達標排放，項目做到了節能降耗、減少污染物排放對周圍環境的影響。



# ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED)

## 環境、社會及管治報告(續)

### 2.5 Tackling Climate Change and Identifying Climate Risks

In the context of global warming, blizzards, rainstorms, typhoons and other extreme weather events have become more frequent and more devastating, and the Group has attached great importance to the possible impact of climate change. In 2021, based on the operation conditions, the Group systematically identified and assessed the potential risks and opportunities brought by climate change and improved the capability to tackle climate change. Also, the Group will keep on making efforts to reduce the emission of greenhouse gases such as carbon dioxide and strive to minimize the impact of climate change.

### 2.5 應對氣候變化識別氣候風險

在全球氣候變暖的大背景下，極端天氣如暴雪、暴雨、颱風等氣候事件發生次數更加頻繁、破壞能力更強，本集團對由氣候變化可能帶來的影響高度重視。2021年，本集團以經營為導向，對該議題可能導致的風險與機遇做出了系統性甄別與評估，提升本集團能增強對抗氣候變化的控制力。同時，本集團也將持續努力減少二氧化碳等溫室氣體的排放，力爭將對氣候變化的影響降至最低。

Risk 風險類型	Description 風險描述	Countermeasures 應對措施
Physical risks 實體風險	Acute physical risks 急性實體風險	<ul style="list-style-type: none"> <li>Ripple effects such as power outages and urban waterlogging of extreme weather events (including blizzards, typhoons, rainstorms, and gales) may affect the normal supply of gas through pipelines or the company's assets.</li> <li>暴雪、颱風、暴雨、大風等極端天氣氣候事件導致的供電中斷、城市內澇等一系列連鎖反應，可能影響管道運輸的正常供氣，或者公司的資產</li> </ul>
	Chronic physical risks 慢性實體風險	<ul style="list-style-type: none"> <li>Climatic factors change in the long term, including the change in temperature, drought and others, that will increase the cost of the maintenance and repair of gas supply facilities.</li> <li>來自長期氣候因子變化，包括溫度變化、乾旱等風險，增加供氣設施的維修保養成本</li> </ul>
		<ul style="list-style-type: none"> <li>Keep an eye on catastrophic weather and strengthen contingency measures for extreme weather</li> <li>Maintain good communication with the government</li> <li>Strengthen the management of operation facilities, and reinforce and maintain them according to climate conditions, such as preventing pipelines from being blocked in winter and carrying out pipeline inspections in extreme weather.</li> <li>時刻關注災難性天氣，強化對於極端天氣的應急預案措施</li> <li>與政府保持良好溝通</li> <li>加強對運營設施的管理，根據氣候情況進行加固維護，比如冬季管道防堵、極端天氣管道巡視</li> <li>Prepare contingency plans for extreme environments and emergency rescue plans for high temperatures and other extreme weather conditions.</li> <li>制定極端環境應急預案及高溫等應急救援預案</li> </ul>

## ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED)

### 環境、社會及管治報告(續)

Risk 風險類型	Description 風險描述	Countermeasures 應對措施
Transitional risks 轉型風險	<p>Policy and regulatory risks 政策法規風險</p> <p>Environmental protection laws and regulations are increasingly stringent at home and abroad, and the State has a demand for energy conservation and emission reduction under the dual carbon target. If we fail to meet the regulatory requirements, the company will face legal actions, punishment and other compliance risks. 國內外環境保護法律法規日益嚴格，雙碳目標下國家對節能減排的需求，若未能滿足監管要求，公司將面臨法律訴訟及處罰的合規風險</p>	<ul style="list-style-type: none"> <li>Keep abreast of national policies, laws and regulations concerning environmental protection and energy, proactively identify emission sources and reduce our carbon emissions.</li> <li>時刻關注國家環保及能源政策及法律法規，主動識別排放源並減少自身碳排放</li> </ul>
	<p>Technical risks 技術風險</p> <p>The dual carbon target and climate change require us to put more money into R&amp;D, introducing more energy-saving technologies and reducing the company's carbon emissions. 面對雙碳目標和氣候變化的背景下，需額外投入資金以研發、引進更節能技術，降低公司碳排放</p>	<ul style="list-style-type: none"> <li>Pay attention to technical means for low-carbon operation and reduce the company's carbon emissions in operation, maintenance, and other links.</li> <li>關注低碳運營技術手段，降低公司運營和運維等環節的碳排放</li> </ul>
	<p>Reputational risks 聲譽風險</p> <p>With the widespread concern over climate change and low economy, relevant shareholders expect the company to take proactive management measures in response to climate issues and increase transparency in information disclosure. 隨着氣候變化和低碳經濟受到廣泛關注，各利益相關方期望公司在應對氣候行動方面採取積極的管理行動，並提升信息披露透明性。</p>	<ul style="list-style-type: none"> <li>Actively respond to the nation's call for "dual carbon", actively communicate with relevant shareholders, and set and disclose emission reduction targets.</li> <li>積極響應國家「雙碳」號召，積極與利益相關方溝通交流，制定並披露減排目標</li> </ul>

# ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED)

## 環境、社會及管治報告(續)

### 3 PEOPLE-ORIENTED, COMMON GROWTH

#### 3.1 Legitimate Employment and Welfare Protection

##### *Overview*

In accordance with the applicable laws and regulations and its internal regulations, the Group has established over 40 clear and transparent human resource rules and regulations, including the Interim Provisions on Labor Employment Management, the Interim Measures Governing Total Salary, the Interim Measures Governing the Remuneration of Headquarters, and the Measures Governing the Education and Training of the Employees of the Headquarters.

In 2021, the Group had no violations in terms of employee employment, remuneration, working hours, equal opportunities, anti-discrimination and other benefits, etc.

##### *Employment according to Law*

In terms of employment, the Group adheres to the principle of employment according to law. In accordance with the Labor Law of PRC, the Labor Contract Law of PRC and other applicable laws and regulations, the Group has strictly managed employment and established and implemented rules and regulations such as the Measures Governing Employment and Appointment (Tentative), so as to practically protect the legal rights and interests of the employees.

In 2021, the total workforce of the Group is 4,125. Except for one employee working in the Hong Kong office, the remaining 4,124 employees are all working in Chinese Mainland. The details are as follows:

### 3 以人為本共同成長

#### 3.1 依法僱傭及福利保障

##### *基本情況*

依據相關法律法規及內部規定，本集團建立了清晰透明的人力資源制度，包括《勞動用工管理暫行規定》、《工資總額管理暫行辦法》、《本部薪酬管理暫行辦法》、《本部員工教育培訓管理辦法》等40餘項。

2021年，本集團在員工僱傭、薪酬待遇、工作時間、平等機會、反歧視及其他待遇福利等方面未發生違規事項。

##### *依法僱傭*

本集團在員工僱傭方面堅持依法僱傭的原則，按照《中國勞動法》及《中國勞動合同法》等相關法律法規的要求，施行嚴格的僱傭管理，制訂並實施《用人用工管理辦法(試行)》等條例，切實保障員工的合法權益。

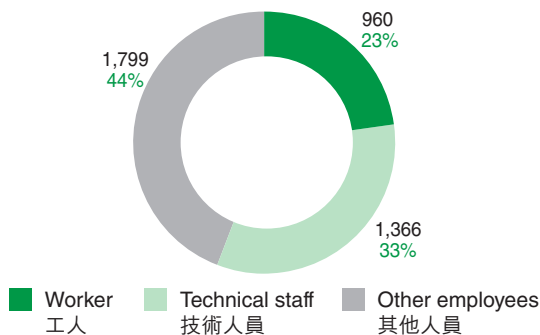
2021年本集團員工人數為4,125人，除1位員工在中國香港辦公室外，其餘4,124名員工均在中國大陸。具體情況如下：

## ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED) 環境、社會及管治報告(續)

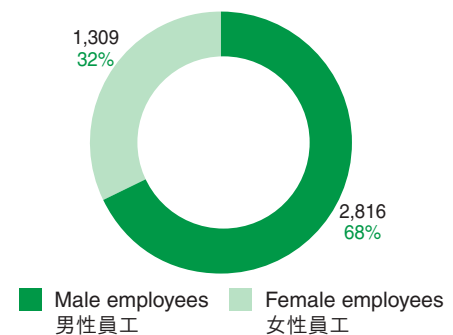
The total number of employees who resigned voluntarily in 2021 was 150, all of whom are from Chinese Mainland. The total staff turnover rate was 3.2%<sup>5</sup>. Among them, male employees accounted for 73% and female employees accounted for 27%; employees aged 35 and below accounted for 60.8%, employees aged 36-45 account for 27.2%, employees aged 46-55 accounted for 9.6%, and employees aged 55 and above accounted for 2.4%. The staff turnover rate is within a reasonable range

2021年，因主動辭職而流失的員工共計150人，均為中國大陸員工，員工總流失率為3.2%<sup>5</sup>。其中男性員工佔73%，女性員工佔27%；35歲及以下員工佔60.8%，36-45歲員工佔27.2%，46-55歲員工佔9.6%，55歲及以上員工佔2.4%。員工流失率在合理範圍內。

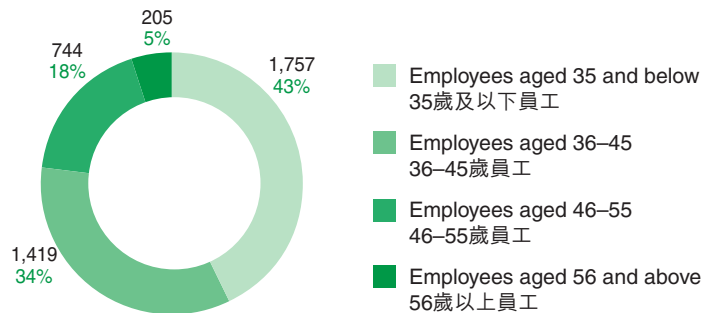
Number and proportion of employees by employment type  
按僱傭類型劃分的員工人數及比例



Number and proportion of employees by gender  
按性別劃分的員工人數及比例



Number and proportion of employees by age group  
按年齡組別劃分的員工人數及比例



<sup>5</sup> Employee turnover rate = number of employees lost / (number of employees at the beginning of the period + number of employees increased in the current period) \* 100%.

<sup>5</sup> 員工流失率 = 員工流失人數 / (期初員工人數 + 本期增加員工人數) \* 100%

## ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED)

### 環境、社會及管治報告(續)

In order to avoid child workers and forced workers, the Group improves its staff employment system and eliminates entirely illegal employment according to the applicable national rules and regulations. For example, it checks the identity information of staff according to the national Regulations Forbidding the Use of Child Workers to effectively avoid child workers; the Employment Contract entered into with staff sets forth that "a fixed-time work system is implemented, where the average weekly working hours shall not be more than 40 and the daily working hours shall not be more than 8", to effectively protect the legal rights and interests of the staff and avoid the phenomenon of forced work. At the same time, the Group advocates equal employment policy and provides equal employment opportunities and labor security for employees of different nationalities, races, genders, religious beliefs and cultural backgrounds.

In 2021, the Group had neither labor disputes caused by illegal use of labor nor cases of child labor or forced labor.

#### **Remuneration Management**

The Group has established and perfected the income distribution management system oriented toward market value and based on performance evaluation. In 2021, based on the actual situation, the Group revised the Interim Measures Governing the Remuneration of Headquarters.

In remuneration management, the Group always adheres to four principles, namely:

- Highlight benefit orientation and encourage downsizing for efficiency;
- Strictly control the per capita wage increase;
- Strengthen the incentives for core and front-line employees and allow reasonable income gap; and
- Strengthen the support to the pilot enterprises for market-oriented reform.

Each subsidiary of the Group has established its own management measures according to the above principles and the Company's rules and regulations, and reported them to the Group for filing.

在防止僱傭童工和強制勞工方面，本集團依據國家相關規定，完善用工制度，從源頭上消除違規隱患：嚴格按照國家《禁止使用童工規定》的要求，核定員工身份信息，有效地避免了童工問題；在與員工簽訂的《勞動合同書》中，約定實施定時工作制，即平均每週工作不超過四十小時，每天工作不超過八小時，有效地保障了員工合法權益，避免出現強制勞動現象。同時，本集團倡導平等用工政策，為不同國籍、種族、性別、宗教信仰和文化背景的員工提供平等的就業機會和勞動保障。

2021年，本集團未發生因違法違規引起的勞動糾紛，亦未發生僱傭童工或強制勞工情況。

#### **薪酬管理**

本集團建立和完善了以市場價值為導向、以績效考核為基礎的收入分配管理體系。2021年結合實際情況，本集團新修訂了《本部薪酬管理暫行辦法》。

在薪酬管理方面，本集團始終堅持四大原則：

- 突出效益導向，鼓勵減員增效。
- 嚴格控制人均工資增幅。
- 加強核心崗位及一線人員激勵力度，合理拉開收入差距。
- 加大對市場化改革試點企業支持力度。

本集團附屬公司依據上述原則，參照本公司規定制定各公司相應管理辦法並報本集團備案。

# ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED)

## 環境、社會及管治報告(續)

### **Welfare System**

The Group has established various systems in respect of social insurance, housing provident fund, enterprise annuity and supplementary medical insurance in strict accordance with the applicable policies and regulations of the State and local governments to ensure that employees would be treated equally in terms of endowment, medical treatment, work-related injury, unemployment, maternity and other aspects in accordance with the law. In 2021, the Group had no social security violations and defaults of payment.

In accordance with the Provisions of the State Council on Home Visit Subsidies, the Group has pushed forward the Interim Measures of the Head Office Governing Staff Attendance and Leave and implemented a paid annual leave system, appropriately solving the problem of visiting relatives for those living far from their families and legally protecting employees' rights to take on leave.

### **3.2 Safety Production and Occupational Health**

The Group always regards the safety protection and occupational health of employees as the top priority, and always strictly complies with applicable laws and regulations, such as the Work Safety Law of PRC (new work safety law) and the Law of PRC on the Prevention and Control of Occupational Diseases, and continuously improves and perfects the work environment management and occupational health and safety management systems. The Group adheres to the policy of "Safety First, Prevention Foremost and Comprehensive Governance" and requires the subsidiaries to clearly define their safety and occupational health management systems. All subsidiaries have established their Safety Production Management Committees and Occupational Disease Prevention Leading Groups to improve their safety production responsibility systems for all employees, and supervise the implementation of systems and measures for safety production and occupational disease prevention.

#### **Safety Production Protection**

Safety production is the foundation for the healthy development of a company. Strengthening corporate safety production management and establishing an intrinsically safe production enterprise can provide a safe, stable and orderly operation order and environment for the enterprise, enhance employees' sense of security and belonging, and win good corporate reputation.

### **福利制度**

本集團嚴格按照國家和地方政府有關政策法規建立了各項社會保險、住房公積金、企業年金和補充醫療保險制度，確保員工在養老、醫療、工傷、失業及生育等方面依法享有平等的權利。2021年本集團未發生任何社會保險違規及欠繳現像。

本集團依照《國務院關於職工探親待遇的規定》，推行《本部員工考勤與休假管理暫行辦法》，實施帶薪年假制度，適當解決員工同親屬長期遠居兩地的探親問題，合法保障員工行使休假權利。

### **3.2 安全生產及職業健康**

本集團始終將員工的安全保障和職業健康視為重中之重，一貫嚴格執行《中華人民共和國安全生產法》(新安全生產法)及《中華人民共和國職業病防治法》等相關法律法規，不斷健全和完善工作環境管理和職業健康安全管理体系。本集團堅持「安全第一、預防為主、綜合治理」的方針，要求各附屬公司細化安全和職業健康管理制度。各附屬公司均成立了安全生產管理委員會及職業病防治領導小組，完善全員安全生產責任制，督促落實安全生產和職業病防治等方面制度與措施。

#### **安全生產保障**

安全生產是企業健康發展的基礎。加強企業安全生產管理，建立本質安全型生產企業，為生產經營提供安全、穩定、有序的經營秩序和環境，增強員工的安全感和歸屬感，贏得良好的企業聲譽。

## ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED) 環境、社會及管治報告(續)

In 2021, the Group conscientiously implemented the guidelines from the annual work conference of China Energy, continuously took the "Three-year Special Rectification on Work Safety" actions, and deeply implemented the requirements and measures of "No.1 Document on Safety and Environmental Protection" and "Ten Necessities and Two Strictness". Besides, the Group worked out the "Two Lists" at the top level, identified 75 problems and hidden dangers, urged all relevant units to rectify such problems and hidden dangers and make corresponding improvements within a given period, continued regular and timely statistics, tracking and analysis for the implementation of the Two Lists, and focally prevented major safety and environmental risks. The Group included the work requirements of the Standardization Atlas for Safe and Civilized Construction of Wind Power Projects into subcontractors' bidding contracts and required that the second planning should be conducted before commencement of construction and that construction should not be commenced until the planning meets standard requirements. And the Group identified the wind power project in Miaoxiang Mountain, Wangkui County, Heilongjiang Province as a standard wind power construction demonstration site, and strengthened the supervision over construction process, to ensure high-standard project construction and stable and orderly safety production.

In 2021, there was no work safety accident happened in the Group.

Standard construction: Based on the standard of the Standardization Atlas for Thermal Power Engineering Construction of China Energy, the Group has formulated the Standardization Atlas for Housekeeping of Wind Power Construction, which is divided into six parts: general layout, facilities for work safety and housekeeping, individual safety protection, signs and identifications, high-risk operations and finished product protection. It is mainly implemented by the wind power engineering construction projects and construction contractors of the Group for HSE management, so as to ensure that wind power projects achieve work safety and housekeeping objectives with "standard facilities, standardized behaviors, orderly construction and clean environment", and ensure the realization of the HSE management objectives for engineering construction.

2021年本集團認真貫徹國家能源集團年度工作會議精神，持續開展安全生產專項整治三年行動，深入落實「安全環保一號文」「十必須、兩嚴格」各項要求和措施；從頂層制訂了「兩個清單」，明確了75項問題隱患，督促各單位限期整改完善，定期對兩個清單的執行情況及時進行統計、跟蹤、分析，著力防範化解安全環保重大風險；將《風電工程安全文明施工標準化圖冊》工作要求列入分包商招標合同，工程開工前要遵照圖冊標準進行二次策劃，策劃符合標準化要求的，才可以開工建設。確立黑龍江望奎妙香山項目為風電建設標準化示範工地，加強建設過程監管，確保了工程高標準施工，保證了安全生產形勢穩定有序。

2021年全年本集團未發生一起安全生產事故。

標準化建設情況：依據國家能源集團《火電工程建設標準化圖冊》為標準，本集團編製了《風電建設文明施工標準化圖冊》，圖冊共分為總體佈局、安全文明施工設施、個體安全防護、標誌標識、高風險作業和成品保護六大部分。主要是供本集團風電工程建設項目、施工承包商在進行安健環管理時遵照執行，確保風電工程達到「設施標準、行為規範、施工有序、環境整潔」的安全文明施工效果，確保實現工程建設安健環管理目標。

## ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED)

### 環境、社會及管治報告(續)

Quality improvement of employees: The Group focuses on organizing all units to study the accident notifications and expresses of China Energy and all kinds of related accident notifications and reports. By learning lessons through accident education, the security line awareness and risk safety awareness of managers and operating personnel at all levels of subsidiary companies and subcontractors have been enhanced, and the security line thinking of work safety has been strengthened.

Implementation of seasonal safety work: The Group has organized the large-scale safety and environmental protection inspection in spring, autumn and winter respectively and established three expert groups for different characteristic businesses to conduct the random inspection for 15 engineering projects, 4 production and operation & maintenance projects and 6 manufacturing enterprises. As a result, 401 problems were identified, for which the Group has made rectification plans and conducted regular re-inspection and feedback to form closed-loop management.

Development of emergency management work: The Group has deeply reflected on and learned the lessons from various kinds of safety accidents, and gradually filled up the loopholes in emergency management in practice. The Group has conducted emergency drills, covering emergency situations such as firefighting, first aid (cardiopulmonary resuscitation and trauma dressing), escape from height, vehicle traffic, lifting injuries, falling from height, and object strikes, and timely evaluated the effects of emergency drills and put forward improvement measures.

#### **Occupational Health Protection**

Because welding smoke, carbon monoxide, ozone, hydrogen sulfide, chlorine, methanol, manganese and their compounds, noise, arc welding, etc. may cause pneumoconiosis, manganese pneumoconiosis, pulmonary fibrosis, chronic respiratory inflammation, chemical poisoning, tinnitus and deafness, and other occupational diseases, the Group attaches great importance to the management of occupational disease hazards, adheres to the core value of "people-oriented" scientific outlook on development, and effectively creates a healthy and safe working environment for all employees.

從業人員素質提升情況：本集團重點組織各單位對國家能源集團事故通報和快報和各類相關事故通報、報告的學習，通過吸取經驗教訓，通過事故教育的學習提升附屬公司和分包商各級管理人員、作業人員的安全紅線意識、風險安全意識，強化了安全生產紅線思維。

季節性安全工作開展情況：組織開展了春季和秋冬季安全環保大檢查，針對不同產業特點組成三個專家組，共抽檢工程項目15個，生產運維項目4個，製造企業6家，共查出問題401項，相應制定整改計劃，按期覆查反饋形成閉環管理。

應急管理工作開展情況：本集團深刻反思並汲取各類安全事故教訓，在實踐中逐漸補足應急管理工作漏洞，應急演練涵蓋消防、急救(心肺復甦、外傷包紮)、高處逃生、車輛交通、起重傷害、高處墜落、物體打擊等突發事件情境，並及時對應急演練效果進行評價並提出改進措施。

#### **職業健康保護**

由於生產運營中產生的電焊煙塵、一氧化碳、臭氧、硫化氫、氯氣、甲醇、錳及其化合物、噪聲、電焊弧光等可能會造成塵肺、錳塵肺、肺纖維化、慢性呼吸道炎癥、化學物質中毒、耳鳴耳聾等職業病，本集團高度重視職業病危害管理問題，堅持「以人為本」的核心科學發展觀，切實為全體員工營造健康、安全的工作環境。



## ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED)

### 環境、社會及管治報告(續)

The Group has carried out a comprehensive occupational disease investigation of its subsidiaries. In 2021, all subsidiaries under occupational disease hazards have organized relevant employees to receive physical examinations for exposure to occupational disease hazards, with a physical examination rate of 100%. All the subsidiaries have also completed the declaration and regular inspection of occupational disease hazards, and both the declaration and inspection rates are 100%. There was no new occupational disease accident happened to any subsidiary of the Group in the full year. The Group has urged all manufacturing enterprises to conduct regular occupational hazard detection for workplaces, and inform the occupational hazards and detection results on site. Labor protection articles such as dust masks, earplugs and protective clothing have been provided for the employees, and occupational health protection equipment and facilities, such as central dust removal system, have been installed, which effectively reduced occupational hazards in the working environment. The Group has also ensured physical examinations before, during and after work for occupational diseases, and improved the Occupational Health Archives and the Personal Occupational Health Monitoring Archives.

The Group has taken a number of occupational health production measures:

- Establishing an occupational health management body with full-time or part-time occupational health managers in accordance with application regulations;
- Developing a list of occupational hazard factors in workplaces and a list of operators exposed to occupational hazard factors;
- Publishing occupational hazards and their consequences, occupational disease prevention measures, and other relevant information at prominent locations in labor contracts and workplaces;
- Placing warning signs and notices at prominent locations of workplaces, occupation posts, equipment and facilities which may create occupational hazards;
- Placing a occupational hazard notification card at an occupation post which has or creates any high toxic substance;

本集團對附屬公司開展了全面的職業病排查工作。2021年，存在職業病危害的各附屬公司均組織相關員工進行了接觸職業病健康體檢，體檢率達到100%，全部完成了職業病危害申報和職業病危害定期檢測，申報率和檢測率均為100%。全年本集團各附屬公司未發生職業病事故。本集團督促各製造企業定期對作業場所進行職業病危害因素檢測，並將職業病危害因素和檢測結果進行現場告知。為員工配備防塵口罩、耳塞、防護服等勞動防護用品，安裝中央除塵系統等職業健康防護設備設施，有效降低工作環境職業病危害。確保開展職業病崗前、崗中、離崗體檢，完善《職業衛生檔案》和個人《職業健康監護檔案》。

本集團採取了一系列職業健康保護措施：

- 建立職業健康管理機構，按規定配備專職或兼職職業健康管理人員。
- 建立工作場所職業病危害因素清單及接觸職業病危害因素的作業人員清單。
- 在勞動合同中及工作現場的醒目位置進行告知職業病危害及其後果、職業病防護措施等內容。
- 在可能產生職業病危害的工作場所、作業崗位、設備、設施的醒目位置設置了警示標識和警示說明。
- 在存在或產生高毒物品的崗位的醒目位置設置了職業危害告知卡。

## ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED)

### 環境、社會及管治報告(續)

- Strictly requiring employees exposed to occupational hazard factors to receive the occupational health examination before work, occupational health examination during work, occupational health examination after work, and occupational health examination in case of emergency, and informing such employees of examination results in writing;
- Providing relevant labor protection articles for operators exposed occupational hazard factors, developing a ledger for such labor protection articles, and offering any training for operators on how to use such labor protection articles.

#### **Outsourcing and Construction Safety Management**

In 2021, the Group took the management of outsourcing units as the top priority. According to the regulations set forth by China Energy, the Group formulated the Special Checklist for Ten Necessities and Two Strictness on the Security Management of Outsourcing Units. The Checklist, which has been issued to all units, contains 61 special check outlines and schemes for ensuring the implementation of "Ten Necessities" in daily routine work. A special inspection was given on the implementation of "Ten Necessities" during the supervision and inspection, so as to ensure consistent security management. Special supervision and check activities were also carried out for engineering projects in the spring, autumn and important days. Three groups were organized to give an thorough inspection on 15 EPC sites and 4 production and operation units. They totally found 401 problems, which have been all rectified and filed.

#### **Safe and Intelligent Application**

Dayuying transformer substation and 66 wind turbines all were equipped with wireless APs, so that 80% of high-risk operation areas were fully covered. Besides, on-site operators were given with 4 pairs of "AR" intelligent glasses, which have voice control, hands-free, real-time feedback, on-site storage and other functions. As a result, main responsible persons and safety managers in offsite offices could know the implementation of high-risk operations.

To the best of our directors' knowledge, there was no official record of any fatal accident, major work-related fatalities and work injuries, lost working days due to work injury in the Reporting Period, and there was no record of work-related fatality for at least three consecutive reporting years.

- 嚴格要求接觸職業病危害因素的員工接受崗前職業健康檢查、在崗職業健康檢查、離崗職業健康檢查和應急職業健康檢查，並將檢查結果書面告知員工。
- 對接觸職業病危害因素的作業人員配備相應的勞動防護用品，建立勞動防護用品發放台賬，對作業人員進行勞動防護用品使用培訓。

#### **外包及施工安全管理**

2021年本集團把對外包單位的管理作為重中之重。根據國家能源集團相關規定，本集團編製了《外委隊伍安全管理十必須兩嚴格規定專項檢查表》，制定了61項專題檢查綱要和方案，將「十必須」內容落實到每日的例行工作中，作為專項檢查表下發各單位執行。在監督檢查中對十必須的執行情況進行了專項檢查，確保安全管理的延續性。開展了工程項目春季、秋季和重要日期專項監察，分成3個檢查組對15個EPC現場、4家生產運營單位展開全面檢查，共發現問題401條，已全部整改完成備案。

#### **安全智能化應用**

在大於營變電站和66颱風機上全部配備了無線AP，實現了變電所、66颱風機無死角全覆蓋，實現了對80%的高風險作業區域覆蓋，為現場人員配備了4台「AR」智能眼鏡，可以實現語音控制、解放雙手、實時回傳、現場儲存等功能。實現主要負責人、安全管理人員在異地的辦公室內也可以掌握高風險作業情況。

就董事所知，於報告期內並無任何致命事故、重大工作相關死亡及工傷、因工傷損失工作日數的正式記錄，且至少連續三個報告年度沒有與工作相關的死亡記錄。

# ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED)

## 環境、社會及管治報告(續)

### 3.3 Training and Career Development Mechanism

The Group attaches great importance to the cultivation, selection and development of talents, and concentrates all kinds of dominant resources on high-potential and high-performance employees.

#### **Education and Training System**

The Group earnestly implements the guidelines from the Central Enterprise Talent Work Conference of the SASAC. The core development strategy of China Energy and its requirements on the human resources system aim at cultivating and building a team of highly qualified and specialized talents and building a talent echelon with reasonable structure, so as to establish a quality training system of source training, tracking training and whole-course training, and provide a strong talent guarantee for enterprise healthy development.

In 2021, the Group organized special training courses on special salon activities, discipline inspection and supervision, Party spirit education, financial management, scientific and technological R&D, procurement, work safety, quality management, etc., with 15,058 persons trained throughout the year:

- The Group conscientiously did a good job in the education and training of Party members, strengthened the education and training of Xi Jinping Thought on Socialism with Chinese Characteristics for a New Era, the Party's principles, policies, situation and tasks, professional knowledge, job skills, etc., guided Party members to enhance their ideals and beliefs, and constantly improved their comprehensive quality and ability to carry out their duties;
- The Group insisted on carrying out the "Rainbow" talent plan, firmly grasped the four key links of talent selection and retention, established the talent work system, promoted the talent selection system, perfected the talent application system, optimized the talent training system, and implemented the talent incentive and retention system;
- The Group steadily advanced the training of graduates. In 2021, it received a total of 93 graduates, and organized a one-week induction course for new employees;

### 3.3 教育培訓及發展機制

本集團高度重視人才的培養、選拔和發展工作，集中各類優勢資源向高潛力、高績效員工傾斜。

#### **教育培訓體系**

本集團認真貫徹落實國資委中央企業人才工作會議精神。國家能源集團的核心發展戰略與國家能源集團人力資源制度要求，以培養打造高素質專業化人才隊伍、建設結構合理的人才梯隊為目標，建立源頭培養、跟蹤培養、全程培養的素質培養體系，為企業健康發展提供有力人才保障。

2021年，本集團組織開展專題沙龍活動、紀檢監察、黨性教育、財務管理、科技研發、採購、安全生產、質量管理等專題培訓班次，全年培訓15,058人次：

- 認真做好黨員教育培訓工作，加強習近平新時代中國特色社會主義思想、黨的方針政策和形勢任務、業務知識和職務技能等方面的教育培訓，引導黨員堅定理想信念，不斷提高綜合素質和履職能力；
- 堅持落實「彩虹」人才計劃，牢牢抓住人才選用育留四個關鍵環節，建立人才工作體系、推行人才選拔體系、完善人才使用體系、優化人才培養體系、落實人才激勵與保留體系；
- 穩步推進畢業生培訓工作，2021年共接收畢業生93名，並組織開展為期一週的新員工入職培訓班；

## ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED)

### 環境、社會及管治報告(續)

- The Group made great efforts to strengthen the building of the "Innovate & Share" salon brand, gradually improved the ranks of internal trainers at all levels of the enterprises, and innovatively promoted the brand building of the "Innovate & Share" salon brand';
- The Group opened up and innovated the working ideas of the training of grass-roots units, promoted the construction of "Internal Trainer" brand steadily in the form of pilot first, carried out various business training, and improved the staff' s business ability.

For the next step, the Group will unswervingly serve the Company' s development strategy, further consolidate the enterprise' s talent development foundation, properly implement plans and promote various pilot work; unswervingly promote enterprise market-oriented reform, combine with the central task of market-oriented reform, establish a flexible and open talent development mechanism; continue to unswervingly implement the "Rainbow" talent plan, firmly grasp the four key links of talent selection, use, cultivation and education, form a complete talent work system; unswervingly improve the HR work mechanism, improve the level of HR, and provide organizational guarantee for the implementation of the "Rainbow" talent plan.

#### ***Selection and Promotion Mechanism***

In order to meet the needs of human resources in the development strategy of the Group and construct a talent selection and promotion mechanism suitable for the transformation and upgrading of the enterprise, the Group has formulated relevant rules and regulations including the Career Development Channel Management Measures, the Measures Governing Officer Assessment, the Measures Governing Professional Training and On-the-Job Placement Training, the Guiding Opinions on Strengthening Cultivating, Using and Stimulating Young Talents (Trial), etc.

- 大力加強「創•享」沙龍品牌建設，逐步健全各層級企業內訓師隊伍，創新推進「創•享」沙龍品牌建設；
- 開拓創新基層單位培訓的工作思路，以試點先行的形式穩步推進「內訓師」品牌建設，開展多方面業務培訓，提高員工業務能力。

下一階段，本集團將堅定不移的服務於公司發展戰略，進一步夯實企業人才發展工基礎，做好規劃的落實與試點工作的推廣；堅定不移的推動企業市場化改革，與市場化改革的中心任務相結合，建立靈活、開放的人才發展機制；堅定不移的繼續落實「彩虹」人才計劃，牢牢抓住人才選用育留四個關鍵環節，形成完整的人才工作體系；堅定不移的健全完善人力資源工作機制，提高人力資源隊伍水平，為「彩虹」人才計劃落實提供組織保障。

#### ***選拔晉升機制***

為滿足本集團發展戰略對人力資源的需求，構築與公司轉型升級相適應的人才選拔晉升機制，本集團制定有《職業發展通道管理辦法》、《領導幹部考核管理辦法》、《專業培養及掛職鍛煉管理辦法》以及《關於加強青年英才培養使用激勵工作的指導意見(試行)》等相關制度。

## ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED)

### 環境、社會及管治報告(續)

For the promotion of management personnel, the Group strengthens the competitive selection mechanism, makes full use of the results of performance evaluation and democratic evaluation and forms a talent selection mechanism allowing the smooth circulation of talents. For the promotion of technicians, the Group has established the full-caliber and full-process career development route and promotion direction considering both "Professional Technique and Professional Skill". It has established a promotion sequence at five levels to unify the remuneration at each level. Moreover, on the basis of the work characteristics of technical R&D talents, the Group has developed corresponding promotion and evaluation mechanisms to pave the way for the development of its personnel, clarify their growth path, fully stimulate the working enthusiasm of technical R&D talents, and comprehensively broaden the range of career possibilities.

In 2021, the Group particularly supervises and urges the subsidiaries to achieve full coverage of the assessment system, increase the leverage effect of performance appraisal, and link the assessment results with post promotion, excellent staff selection, post adjustment, and career development channel rating to promote fair and reasonable income and make backbone employees better paid.

#### 3.4 Employee Care and Team Building

The Group always adheres to the people-oriented management concept, eliminates the worries for the employees and provides care for the employees in order to promote the stable and healthy development of the enterprise.

The trade union of the Group puts the interests of employees in the first place and effectively implemented the "People-benefit Project" to benefit the employees:

1. It has extensively carried out poverty alleviation, serious illness relief, children education aid, "send warmth in winter, send cool in summer" and other condolence activities, so as to distribute holiday gifts and epidemic prevention supplies to the Group's employees.
2. It has enriched employees' cultural and sports activities by carrying out daily activities such as badminton, swimming, yoga and dancing to enrich the amateur cultural life of employees. It has organized staff walking, red song competition and other activities for 8 times, with participation of more than 1,100 person-times.

在管理人員的晉升方面，本集團強化競爭選拔機制，充分利用績效考核和民主測評結果，形成能上能下的人才選用機制；在技術人員的晉升方面，本集團確立「專業技術和專業技能」並行的全口徑、全過程職業發展路線和晉升方向，設立五大層級的晉升序列，統一各層級的薪酬待遇水平。同時，根據技術研發人才的工作特點，本集團制定了相應的晉升機制和考評機制，打通發展通道，明晰成長路徑，充分激發技術研發人才的工作積極性，全面拓寬職業晉升的空間和高度。

2021年，本集團督導附屬公司實現考核體系全覆蓋，加大績效考核槓桿效應，將考核結果與崗位晉升、優秀評選、職務調整、職業發展通道等級評定等方面掛鉤，促進收入公平、合理、向骨幹員工傾斜。

#### 3.4 員工關懷及團隊建設

本集團始終堅持以人為本的管理理念，為員工解憂、為職員送關愛，促進企業的穩定健康發展。

本集團工會將職工利益放到第一位，有效落實「惠民工程」，使職工真正受益。

1. 廣泛開展扶貧幫困、大病救助、子女助學及「冬送溫暖、夏送清涼」等一線慰問工作，為本集團員工發放節日慰問品及節日、防疫物資等。
2. 豐富職工文體活動。開展羽毛球、游泳、瑜伽、舞蹈等日常活動，豐富了員工業餘文化生活。組織職工健步走、紅歌比賽等活動8次，參加人數1,100餘人次。

## ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED)

### 環境、社會及管治報告(續)

3. The Group has thoroughly implemented the Law of the PRC on the Protection of Women's Rights and Interests and the Female Employee Labor Protect Regulations, actively safeguarded women's rights and interests, revised collective labor contracts and increased the protection of women workers' rights and interests. The Group has meticulously organized and carried out the theme activities of the International Women's Day (March 8), which greatly stimulating the majority of female employees to work hard and contribute to their posts.
4. Be concerned about the practical problems of young employees. The Youth League Committee of the company has carried out the youth networking activity of "Celebrating the Hundredth Anniversary and Expressing Your Experience with China Energy". By focusing on the issue of youth's "difficulty in making friends", the Group has organized large-scale networking activities, enhanced interactive understanding and made young people make friends with each other under the matchmaking by China Energy. In terms of the "housing difficulty" of young people, Lucency has arranged the staff dormitory for young employees and established the youth dormitory scheme.
3. 深入貫徹落實《中國婦女權益保障法》、《女職工勞動保護規定》，積極維護婦女權益，修訂集體勞動合同，增加女職工權益保護內容。精心組織開展三八婦女節主題活動等，極大的激發廣大女職工奮發向上、為崗位建功的精神。
4. 關心青年員工實際問題。公司團委開展「喜迎百年華誕，表白國家能緣」青年交友活動，聚焦青年「交友難」的問題，組織大型聯誼活動，增進互動了解，創造牽手「能緣」。針對青年「住房難」的問題，朗新明為青年員工協調員工宿舍，制定青年宿舍方案。

## 4 COMPLIANCE MANAGEMENT AND QUALITY SERVICE

### 4.1 Fighting Corruption and Promoting Incorruptible Employment according to Law

In 2021, the Group firmly established the concept of operating in accordance with the law, continued to carry out the construction of incorruptible employment, and continuously improved the honesty and integrity operation system based on scientific decision-making, perfect mechanism and strong supervision. Taking the "year of promoting high-quality development" as the main line, the Group comprehensively strengthened daily supervision and inspection, and carried out anti-corruption activities on an ongoing basis.

## 4 合規經營品質服務

### 4.1 依法依規廉潔從業

2021年，本集團牢固樹立依法經營理念，持續開展廉潔從業工作建設，不斷健全決策科學、機制完善及監督有力的廉政運行體系。以「高質量發展推進年」為主線，全面加強日常監督檢查工作，持續開展反貪反腐活動。

## ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED) 環境、社會及管治報告(續)

In order to regulate employees' professional behavior and prevent corruption, the Group formulated and issued the key points of annual work, clarified 11 items, 60 supervision priorities and 10 main work measures, and further strengthened the implementation of responsibilities for combating corruption and upholding integrity. Throughout the year, 9 new work systems of combating corruption and upholding integrity were issued and 13 systems were revised to promote the formation of institutional system improved continuously and strict and effective supervision system. By paying close attention to key areas and key stages, and firmly carrying out special supervision and inspection, the Group made supervision truly integrated into enterprise governance and daily management. The Group further unblocked the complaint reporting channels, widely mobilized public supervision, made full use of the online supervision and reporting module and offline reporting mailbox, leading to an "all-weather" complaint reporting mechanism, and giving full play to the role of social supervision.

The Group strictly implemented the pre-appointment honesty and integrity examination system (including investigation, reply, examination and interview for honesty and integrity), and cadres with defects were strictly prevented from being promoted, employed or praised. With the theme of "building a clean and honest administration and mutual-benefits relations", the Group carried out the monthly-activity of publicity and education on honesty and integrity culture. The Group organized the directors and employees to learn 40 typical cases of violating the spirit of the eight provisions of the central government, carried out 194 times of studying clean practice, and 3,321 person-times watched warning education films "Keep Our Faith, Keep Ringing the Alarm Bell" and "Anti-Corruption is Around". The Group continued to promote the joint promotion, co-construction and sharing of clean business by signing "integrity business agreement" with suppliers and cooperative companies and issuing integrity business questionnaire. By presenting 838 books such as "Discipline is Around" to directors and employees, broadcasting 39 animation short films such as "Exposing the Dirty Tricks in Bidding Fields" in the company's elevators and other public places, and carrying out 317 person-times of integrity education for project managers, the Group guided the employees to further strengthen their awareness of discipline and rules, and created a good anti-corruption ecology characterized by integrate and upright spirit, honest and practical attitude, entrepreneurship, discipline and law-abiding.

Throughout 2021, the Group did not file and conclude any corruption lawsuit against the company and its employees.

為規範員工的職業行為，預防腐敗問題發生，制定印發年度工作要點，明確11項60條監督重點和10項主要工作舉措，進一步強化反腐倡廉工作責任落實。全年印發新增廉潔工作制度9項，修訂制度13項，推動形成不斷完備的制度體系、嚴格有效的監督體系。緊盯重點領域和關鍵環節，紮實開展專項監督檢查工作，使監督真正融入企業治理，融入日常管理。進一步暢通信訪舉報渠道，廣泛動員群眾監督，充分利用線上監督舉報模塊和線下舉報信箱打造「全天候」信訪舉報機制，充分發揮社會監督作用。

本集團嚴格執行廉政考察、廉政回函、廉政考試、廉政談話的任前廉政體檢制度，堅持杜絕幹部「帶病提拔」「帶病上崗」「帶病表揚」。以「廉潔共建、親清共贏」為主題，開展廉潔文化宣傳教育月活動。組織公司董事及員工學習違反中央八項規定精神典型案例40個，開展廉潔從業學習194次，觀看警示教育片《不忘初心、警鐘長鳴》《正風反腐在身邊》3,321人次，通過與供應商、合作單位簽訂「廉潔協議」發放廉潔調查問卷等方式，持續推動廉潔業務共促、共建、共享。通過向董事及員工贈送《紀律在身邊》等書籍838本，在公司電梯間等公共場合播放《曝光這些招投標領域裡的貓膩》等動漫短片39個，對項目經理開展廉潔教育317人次等方法，引導公司員工進一步築牢紀律意識和規矩意識，營造風清氣正、崇廉尚實、幹事創業、遵紀守法的反腐倡廉好生態。

2021年全年，本集團未發生對公司及員工提出並已審結的貪污訴訟案件。

# ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED)

## 環境、社會及管治報告(續)

### 4.2 Taking Responsibility for Products and Placing Quality in the First Place

The Group is well aware that providing quality products for customers is the most basic responsibility, so it attaches great importance to product quality. The Group fully guides the implementation of quality management by means of overall management and accountability at various levels according to the “Guidance of the Central Committee of CPC on Quality Improvement Action” and the “Opinions on the Implementation of Quality Improvement Action by Central Enterprises” issued by SASAC, the “Implementation Plan for Quality Improvement Action” issued by China Energy and the “Measures for the Quality Management of Guodian Technology & Environment Group Corporation Limited”. In 2021, the quality level of the Group was generally stable and good, and the quality objectives had been successfully achieved:

- Throughout the year, there were no major and batch manufacturing, engineering, operation and maintenance quality accidents;
- The construction quality and equipment operation quality were stable without major equipment operation faults;
- The pass rate of quality inspection met the requirements of the Group, the construction installation quality met the design requirements, and all product delivery quality met the standards and achieved customer satisfaction;
- Strictly implemented the national quality standards and quality technical requirements, carried out refined quality control throughout the construction of the project, and all project quality acceptances have reached the eligibility criteria; and
- The main quality indicators have reached the advanced level of similar projects and products. The acceptance rate of energy conservation and environmental protection projects was 100%, the acceptance rate of engineering equipment installation was 100%, the qualification rate of environmental protection products manufacturing was 100%, the up-to-standard discharge rate of water treatment was 100%,

The Group has established a full lifecycle quality management system covering all aspects of design, production, construction and operation and maintenance, continuously promoted product structure optimization and upgrading, ensured continuous improvement of product quality, further enhanced the quality awareness of all employees, and has always been taking quality assurance as the lifeline of enterprise development.

### 4.2 產品責任質量為先

本集團深知為客戶提供優質產品是最基本的責任，因此高度重視產品質量。根據《中共中央國務院關於開展質量提升行動的指導意見》和國務院國資委《關於中央企業開展質量提升行動的實施意見》，國家能源集團制定印發的《質量提升行動實施方案》，以及《國電科技環保集團股份有限公司質量管理辦法》，統籌管理，分級負責，全面指導開展質量管理工作，2021年本集團質量管理工作總體平穩向好，品質目標完成良好：

- 全年未發生重大及批量製造、工程、運維質量事故。
- 施工質量和設備運行質量平穩，無重大設備運行故障。
- 質量檢驗合格率達到集團要求，建築安裝質量滿足設計要求，所有產品交付質量符合標準並達到客戶滿意。
- 嚴格貫徹國家質量標準、和質量技術要求，對工程項目施工全過程實施精細化質量控制，所有工程質量驗收達到合格標準。
- 主要質量指標達到同類項目和產品的先進水平。節能環保工程驗收合格率100%，工程設備安裝驗收合格率100%，環保產品製造合格率100%，水處理達標排放率100%。

本集團已建立起了覆蓋設計、生產、施工及運維各業務單元的全生命週期質量管理體系，不斷推進產品結構優化升級，確保產品質量持續提升，進一步增強全員質量意識，把保障質量作為企業發展的生命線。



# ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED)

## 環境、社會及管治報告(續)

### 4.3 Innovation, Efficiency and Scientific Advancement

As the practitioner of green energy reform, the Group inherits the gene of innovative culture, fully exerts the inherent power of market-oriented scientific and technological innovation, and has established a strong and powerful technology research and development system with rational division of labor and clear architecture.

The Group pays attention to innovation incentive and intellectual property protection, requires each branch or subsidiary to formulate relevant intellectual property management and protection measures and sign the non-disclosure agreement with technical personnel with intellectual property owned by the enterprise, reward the technical personnel in respect of intellectual property, thus not only protecting the technology, but also arousing the enthusiasm of the staff in invention and creation.

As of December 31, 2021, the Group has obtained a total of 225 patents, including 52 national invention patents. In the past three years, more than 50 items of new technologies industrialization realized operating revenues of more than RMB8.7 billion, and scientific and technological innovation has provided the source and motive force for the sustainable development of the Group.

### 4.3 創新增效科學進步

作為能源綠色變革的踐行者，本集團傳承創新文化基因，充分發揮以市場為導向的科技創新內在動力，建立堅強有力、分工合理、層次清晰的技術研發體系。

本集團注重創新激勵和知識產權保護，要求各附屬公司制定相關的知識產權管理及保護辦法，與技術人員簽訂保密協議，知識產權歸屬權為企業所有，同時對技術人員進行相應的知識產權獎勵，在保護技術的同時加大了員工發明創造的積極性。

截至2021年12月31日，本年度共獲得專利225項，其中國家發明專利52項。近三年來形成的50餘項新技術產業化實現營業收入人民幣87億元，科技創新為本集團的持續發展提供了源泉和動力。

# ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED)

## 環境、社會及管治報告(續)

### 5 SHARING DEVELOPMENT AND CONTRIBUTING TO THE SOCIETY

#### 5.1 Supplier Cooperation and Management

The Group strictly implemented the relevant national laws and regulations such as the Law of the People's Republic of China on Bid Invitation and Bidding and the relevant provisions of China Energy, adhered to the four unifications (unified planning, unified standard, unified process and unified platform) requirements of China Energy on procurement, and actively implemented the requirements of the procurement control system of China Energy to ensure the smooth implementation of procurement. In the procurement process, a professional agency company was responsible for setting up the members of the bid evaluation committee and evaluation team, and implementing the relevant supervision regulations, confidentiality discipline and withdrawal-application regulations of China Energy. The procurement document template strictly complied with the Law of PRC on Bid Invitation and Bidding and its Implementation Regulations, and clearly specified the qualification conditions of qualified suppliers in the procurement documents according to the specific conditions of the subject matters (such as quality, environment and occupational health certification, and national mandatory requirements such as work safety and 3C). Furthermore, it also clearly stipulated that green environmental protection products shall be purchased first on the premise of meeting the basic procurement needs, so as to identify and control the environmental and social risks in the supply chain. In the future work, we will continue to strengthen the management of supplier social responsibility, continuously learn the advanced experience in the industry and promote the quality improvement of equipment products. In 2021, a total of 1,182 suppliers cooperated with the Group, all of which were Chinese mainland enterprises.

### 5 共享發展奉獻社會

#### 5.1 供應商合作與管理

本集團嚴格執行《中華人民共和國招標投標法》等相關國家法規和國家能源集團相關規定，堅持國家能源集團採購工作的四個統一要求：統一計劃、統一標準、統一流程、統一平台，積極落實國家能源集團採購管控體系要求，確保採購工作順利執行。採購過程由專業代理公司負責評標委員會、評審小組成員組建，並執行國家能源集團相關監督規定、保密紀律和申請迴避規定。採購文件範本嚴格執行《中華人民共和國招標投標法》《中華人民共和國招標投標法實施條例》，依據目標物具體情況在採購文件中明確合格供貨商資格條件(例如質量、環境、職業健康認證以及安全生產、3C等國家強制要求)，並明確規定在滿足基本採購需求前提下優先採購綠色環保產品，以識別並管控供應鏈上的環境及社會風險。在今後的工作中將持續加強供貨商社會責任管理工作。不斷學習行業內先進經驗，促進裝備產品質量提升。2021年，本集團合作的供貨商總計1,182家，全部為中國大陸企業

# ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED)

## 環境、社會及管治報告(續)

### 5.2 Establishing Good Customer Relationship

The Group's main customers are thermal power and wind power generation companies, and some coal and chemical enterprises, as well as some local governments with municipal water operation needs. The Group packs and marks products strictly according to the applicable national standards; and it strictly observes the Advertising Law of PRC in publicity in order to ensure authentic contents and protect the legal rights and interests of customers. If necessary, both parties shall abide by the confidentiality provisions as stipulated in the contract. In 2021, the Group conducted a survey of customer satisfaction through a variety of ways, and the survey results showed that the overall customer satisfaction was generally high. The Group facilitate customer feedback through various channels and respond to the feedback in time. With the efforts of all the departments of the Group, the normalized problem feedback and resolution mechanism was also improved.

In 2021, the Group did not have any customer complaint regarding serious problems in relation to the safety production. The percentage of products or items sold or delivered that had to be recalled for safety or health reasons was 0%.

#### **Customer Satisfaction**

The Group's goal of customer satisfaction is to continuously improve customer satisfaction to keep customer satisfaction over 90%. At present, on one hand, the Group continues to organize customer satisfaction surveys on a quarterly basis through combined methods of third-party survey platforms, WeChat, mail and letters; on the other hand, the Group carries out the on-site project problem collection work frequently, and follows up problem handling in time until they are solved to achieve the whole life cycle marketing services.

#### **Customer Complaint Mechanism**

The Group has established a two-level complaint mechanism for the Head Office and subsidiaries. Customers can complain via site feedback, or by mail, call, fax, etc., to the Head Office or the in-charge departments of the subsidiaries. All kinds of customer complaints are received and handled by special personnel, and such special personnel are responsible for closed-loop tracking.

### 5.2 構建良好客戶關係

本集團主要客戶為從事火電、風電業務的發電企業，和部分煤炭、化工企業，以及有市政水務運營需求的部分地方政府。本集團嚴格按照國家標準進行包裝、標識，在宣傳中嚴守《中華人民共和國廣告法》要求，確保內容真實，保護客戶合法權益。如需要，雙方按照合同約定遵守保密相關條例。2021年集團通過多種方式對客戶滿意度進行調查，調查結果顯示客戶整體滿意度評價較好。集團開通各種各樣的渠道以方便客戶反饋問題並及時做出回應。通過集團上下各部門的努力，常態化的問題反饋和解決機制也更加完善。

2021年，本集團未發生性質嚴重、影響用戶安全生產的客戶投訴，已售或已交付的產品或項目中因安全或健康原因而須回收的百分比為0%。

#### **客戶滿意度**

本集團對客戶滿意方面的目標為持續提高客戶滿意度，使客戶滿意度不低於90%。目前本集團一方面繼續按季度組織客戶滿意度調查工作，通過第三方調查平台、微信、郵件以及信函等方式聯合開展；高頻次地開展現場項目問題收集工作，並及時跟進問題處理，直至問題閉環，以實現全壽命週期營銷服務。

#### **客戶投訴機制**

本集團具有本部和附屬公司兩級投訴機制，客戶可通過現場反饋，也可向本部或附屬公司歸口管理部門通過郵件、電話或傳真等渠道投訴。各類客戶投訴均由專人負責接待和處理，並負責閉環跟蹤。

## ENVIRONMENTAL, SOCIAL AND GOVERNANCE REPORT (CONTINUED)

### 環境、社會及管治報告(續)

In 2021, the Group actively collected 134 pieces of feedback from project owners via the work mechanism of “two-level investigation and three-channel feedback”, among which 128 were confirmed resolved within the Reporting Period by the owners via telephone or interview. The timeliness of user complaint handling and the satisfaction of customers with the results of complaint handling during the year continued to increase. The problem feedback and closed-loop processing mechanism on a regular basis promoted the continuous improvement of the performance, safety, quality and service of the Group's products, and played an important role in enhancing the brand image.

#### 5.3 Fulfilling Corporate Social Responsibility

The Group actively participated in the local government-enterprise co-construction, science, education, health, donation and other social public welfare activities and thus promoted the social harmony of the region where it was located. The labor union organization of the company has organized all departments to carry out activities to help rural revitalization, with amount total of RMB1 million in the form of purchase instead of donation.

The Group has established the “Green Ribbon” Youth Volunteer Association, which has gradually established three series of volunteer service brands, namely the “Energy Knowledge into the Campus”, “Uniting Love Sowing Love” and “The Ubiquitous Green Ribbon Super Hero”, passing through the positive energy of youth and fulfilling social responsibility of central enterprises of the Group. In 2021, the “Green Ribbon” Volunteer Association has organized the campaign of Youth Lighting up Micro Wish, and mobilized all employees of the Group to donate goods and materials for primary and secondary schools in Chifeng City, Inner Mongolia, with a total amount over RMB100,000.

The Youth League Committee of the Company has carried out a series of voluntary service activities into campus about the energy knowledge with the theme “Celebrating the Centenary Year and Together Building an Energy Dream”. By combining with the characteristics and actual situation of the enterprise, it has carried out in-depth activities into primary and secondary schools to spread the concept of green energy and the power of love. It has carried out Learn-from-Lei Feng volunteer service activity themed “Youth Heart Dedicates to the Party For a New Era”, and set up learn-from Lei Feng service station on site, including Energy Knowledge Sharing Station, Garbage Classification Publicity Station, Hot Water Service Station and Love Donation Station, so as to further promote to the staff and citizens about the brand positioning of China Energy (i.e. clean energy, beautiful world), advocate the concept of green life and undertake the social responsibility of central enterprise.

2021年本集團通過「兩級調查、三個渠道反饋」的工作機制主動收集項目業主反饋問題134個，其中業主已於報告期內通過電話或口頭確認滿意解決的項目問題有128個。本年度用戶投訴處理的及時性以及客戶對投訴處理結果的滿意度均持續提高。常態化的問題反饋和閉環處理機制促進了本集團產品的性能、安全、質量和服務持續提高，對品牌形象的提升發揮重要作用。

#### 5.3 踐行企業社會責任

本集團積極參與所在地區的地企共建、科教衛生、捐資助學等社會公益活動，促進了所在地區的社會和諧。公司工會組織各單位開展助力鄉村振興活動，以購代捐共計人民幣100萬元。

本集團「綠絲帶」青年志願者協會逐步建立了「能源知識進校園」「團聚愛播種愛」「無處不在的綠絲帶超體」三大系列志願服務品牌，傳遞青春正能量，履行央企社會責任。2021年，「綠絲帶」志願者協會舉辦青春點亮微心願活動，發動本集團全體員工為內蒙古赤峰市地區的中小學物品捐贈物資累計人民幣10萬餘元。

本公司團委開展「喜迎百年華誕，共建能源夢想」能源知識進校園系列志願服務活動，結合企業特點及實際情況，深入中小學向學生傳播綠色能源理念，傳遞愛心力量；開展「青春心向党奉獻新時代」學雷鋒志願服務活動，現場設立學雷鋒服務站，分設「能源知識分享站」「垃圾分類宣傳站」「熱水服務站」「愛心捐助站」，向廣大員工和街頭市民進一步弘揚「清潔能源美麗世界」的國家能源集團品牌定位，提倡綠色生活理念，承擔央企社會責任。

# APPENDIX-INDEX TO CONTENTS OF ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG) OF HKEX

## 附錄一 香港交易所的環境、社會及管治(ESG)內容索引

Environmental, Social and Governance Report Guide 《環境、社會及管治報告指引》		Report content 報告內容
<b>Subject Area A. Environmental</b> 主要範疇A. 環境		
<b>Aspect A1: Emissions</b> 層面A1：排放物		
A1	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to air and greenhouse gas emissions, discharges into water and land, and generation of hazardous and non-hazardous waste. 一般披露 有關廢氣及溫室氣體排放、向水及土地的排污、有害及無害廢棄物的產生等的： (a) 政策；及 (b) 遵守對發行人有重大影響的相關法律及規例的資料。	2.2.1 Energy Management 能源管理 2.3 Reduce Pollution Emissions Implement Scientific Management 降低污染排放施行科學管理
A1.1	The types of emissions and respective emissions data. 排放物種類及相關排放數據。	2.2.2 Water Resource Management 水資源管理 2.3.3 Exhaust Gas Management 廢氣管理
A1.2	Direct (Scope 1) and energy indirect greenhouse gas emissions in total (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility). 直接(範圍1)及能源間接溫室氣體總排放量(以噸計算)及(如適用)密度(如以每產量單位、每項設施計算)。	2.2.1 Energy Management 能源管理
A1.3	Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility). 所產生有害廢棄物總量(以噸計算)及(如適用)密度(如以每產量單位、每項設施計算)。	2.3.1 Hazardous Waste Management 有害廢棄物管理
A1.4	Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility). 所產生無害廢棄物總量(以噸計算)及(如適用)密度(如以每產量單位、每項設施計算)。	2.3.2 Non-hazardous Waste Management 無害廢棄物管理
A1.5	Describe the emission targets set and the steps taken to achieve them. 描述所訂立的排放目標及為達到這些目標所採取的步驟。	2.1.1 Segment of Environmental Protection and Energy Conservation Solutions 環保與節能解決方案板塊 2.3.3 Exhaust Gas Management 廢氣管理 2.4 Focusing on Ecology and Pursuing Sustainable Development 關注生態健康推動持續發展

# APPENDIX-INDEX TO CONTENTS OF ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG) OF HKEX (CONTINUED)

## 附錄－香港交易所的環境、社會及管治(ESG)內容索引(續)

Environmental, Social and Governance Report Guide 《環境、社會及管治報告指引》		Report content 報告內容
<b>Subject Area A. Environmental</b> 主要範疇A. 環境		
A1.6	Describe the methods used to treat hazardous and non-hazardous waste and describe the waste reduction targets set and the steps taken to achieve them.  描述處理有害及無害廢棄物的方法，及描述所訂立的減廢目標及為達到這些目標所採取的步驟。	2.1.1 Segment of Environmental Protection and Energy Conservation Solutions 環保與節能解決方案板塊  2.3.1 Hazardous Waste Management 有害廢棄物管理  2.3.2 Non-hazardous Waste Management 無害廢棄物管理
<b>Aspect A2: Use of Resources</b> 層面A2：資源使用		
A2	General Disclosure Policies on the efficient use of resources, including energy, water and other raw materials.  一般披露 有效使用資源(包括能源、水及其他原材料)的政策。	2.2 Reduce Resource Consumption Adhere to the Concept of Resource Saving 減少資源消耗奉行節約理念
A2.1	Direct and/or indirect energy consumption by type (e.g. electricity, gas or oil) in total (kwh in '000s) and intensity (e.g. per unit of production volume, per facility). 按類型劃分的直接及／或間接能源(如電、氣或油)總耗量(以千個千瓦時計算)及密度(如以每產量單位、每項設施計算)。	2.2.1 Energy Management 能源管理
A2.2	Total water consumption and intensity (e.g. per unit of production volume, per facility). 總耗水量及密度(如以每產量單位、每項設施計算)。	2.2.2 Water Resource Management 水資源管理
A2.3	Describe the energy efficiency targets set and the steps taken to achieve them.  描述所訂立的能源使用效益目標及為達到這些目標所採取的步驟。	2.2 Reduce Resource Consumption Adhere to the Concept of Resource Saving 減少資源消耗奉行節約理念
A2.4	Description of whether there is any issue in sourcing water that is fit for purpose water efficiency initiatives and result achieved. 描述求取適用水源上可有任何問題，以及所訂立的用水效益目標及為達到這些目標所採取的步驟。	2.2.2 Water Resource Management 水資源管理
A2.5	Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced. 製成品所用包裝材料的總量(以噸計算)及(如適用)每生產單位佔量。	2.2.3 Use of Packaging Materials 包裝物使用

# APPENDIX-INDEX TO CONTENTS OF ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG) OF HKEX (CONTINUED)

## 附錄－香港交易所的環境、社會及管治(ESG)內容索引(續)

Environmental, Social and Governance Report Guide 《環境、社會及管治報告指引》		Report content 報告內容
<b>Subject Area A. Environmental</b> 主要範疇A. 環境		
<b>Aspect A3: The Environment and Natural Resources</b> 層面A3：環境及天然資源		
A3	General Disclosure Policies on minimizing the issuer's significant impact on the environment and natural resources. 一般披露 減低發行人對環境及天然資源造成重大影響的政策。	2 Practicing the Concept of Green Development 踐行綠色發展理念
A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them. 描述業務活動對環境及天然資源的重大影響及已採取管理有關影響的行動。	2 Practicing the Concept of Green Development 踐行綠色發展理念
<b>Aspect A4: Climate change</b> 層面A4：氣候變化		
General disclosure	Identify and respond to policies prepared for significant climate-related issues that have already had or may have an impact on the issuer. 一般披露 識別及應對已經及可能會對發行人產生影響的重大氣候相關事宜的政策。	2.5 Tackling Climate Change and Identifying Climate Risks 應對氣候變化識別氣候風險
A4.1	Describe significant climate-related issues that have already had or may have an impact on the issuer and corresponding responsive actions. A4.1 描述已經及可能會對發行人產生影響的重大氣候相關事宜，及應對行動。	2.5 Tackling Climate Change and Identifying Climate Risks 應對氣候變化識別氣候風險
<b>Subject Area B. Social</b> 主要範疇B. 社會		
<b>Employment and Labor Practices</b> 僱傭及勞工常規		
<b>Aspect B1: Employment</b> 層面B1：僱傭		
B1	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to compensation and dismissal, recruitment and promotion working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare. 一般披露 有關薪酬及解僱、招聘及晉升、工作時數、假期、平等機會、多元化、反歧視以及其他待遇及福利的： (a) 政策；及 (b) 遵守對發行人有重大影響的相關法律及規例的資料。	3.1 Legitimate Employment and Welfare Protection 依法僱傭及福利保障
B1.1	Total work force by gender, employment type (e.g. full-time or part-time), age group and geographical region. 按性別、僱傭類型(如全職或兼職)、年齡組別及地區劃分的僱員總數。	3.1 Legitimate Employment and Welfare Protection 依法僱傭及福利保障
B1.2	Employee turnover attrition rate by gender, age group and geographical region. 按性別、年齡組別及地區劃分的僱員流失比率。	3.1 Legitimate Employment and Welfare Protection 依法僱傭及福利保障

# APPENDIX-INDEX TO CONTENTS OF ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG) OF HKEX (CONTINUED)

## 附錄－香港交易所的環境、社會及管治(ESG)內容索引(續)

Environmental, Social and Governance Report Guide 《環境、社會及管治報告指引》		Report content 報告內容
<b>Subject Area A. Environmental</b> 主要範疇A. 環境		
<b>層面B2：健康與安全</b>		
B2	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to providing a safe working environment and protecting employees from occupational hazards. 一般披露 有關提供安全工作環境及保障僱員避免職業性危害的： (a) 政策；及 (b) 遵守對發行人有重大影響的相關法律及規例的資料。	3.2 Safety production occupational health and 安全生產及職業健康
B2.1	Number and rate of job-related deaths in the previous three years (including the reporting year). 過去三年(包括匯報年度)每年因工亡故的人數及比率。	3.2 Safety production occupational health and 安全生產及職業健康
B2.2	Lost days due to work injury. 因工傷損失工作數。	3.2 Safety production occupational health and 安全生產及職業健康
B2.3	Description of occupational health and safety measures adopted, how they are implemented and monitored. 描述所採納的職業健康與安全措施，以及相關執行及監察方法。	3.2 Safety production occupational health and 安全生產及職業健康
<b>Aspect B3: Development and Training</b> 層面B3：發展及培訓		
B3	General Disclosure Policies on improving employees' knowledge and skills for discharging duties at work. Description of training activities. 一般披露 有關提升僱員履行工作職責的知識及技能的政策。描述培訓活動。	3.3 Employee Training and Career Development Mechanism 教育培訓及發展機制
B3.1	Percentage of the trained employees by gender and type (such as senior management, medium management). 按性別及僱員類別(如高級管理層、中層管理層)劃分的受訓僱員百分比。	3.3 Employee Training and Career Development Mechanism 教育培訓及發展機制
B3.2	The average hours of employees trained by gender and employee category. 按性別及僱員類別劃分，每名僱員完成受訓的平均時數。	3.3 Employee Training and Career Development Mechanism 教育培訓及發展機制



# APPENDIX-INDEX TO CONTENTS OF ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG) OF HKEX (CONTINUED)

## 附錄－香港交易所的環境、社會及管治(ESG)內容索引(續)

Environmental, Social and Governance Report Guide 《環境、社會及管治報告指引》		Report content 報告內容
<b>Subject Area A. Environmental</b> 主要範疇A. 環境		
<b>Aspect B4: Labor Standards</b> 層面B4：勞工準則		
B4	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to preventing child and forced labor. 一般披露 有關防止童工或強制勞工的： (a) 政策；及 (b) 遵守對發行人有重大影響的相關法律及規例的資料。	3.1 Legitimate Employment and Welfare Protection 依法僱傭及福利保障
B4.1	Description of measures to review employment practices to avoid child and forced labor. 描述檢討招聘慣例的措施以避免童工及強制勞工。	3.1 Legitimate Employment and Welfare Protection 依法僱傭及福利保障
B4.2	Description of steps taken to eliminate such practices when discovered. 描述在發現違規情況時消除有關情況所採取的步驟。	3.1 Legitimate Employment and Welfare Protection 依法僱傭及福利保障
<b>Operating Practices</b> 營運慣例		
<b>Aspect B5: Supply Chain Management</b> 層面B5：供應鏈管理		
B5	General Disclosure Policies on managing environmental and social risks of the supply chain. 一般披露 管理供應鏈的環境及社會風險政策。	5.1 Supplier Cooperation and Management 供應商合作與管理
B5.1	Number of suppliers by geographical region. 按地區劃分的供應商數目。	5.1 Supplier Cooperation and Management 供應商合作與管理
B5.2	Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, how they are implemented and monitored. 描述有關聘用供應商的慣例，向其執行有關慣例的供應商數目、以及有關慣例的執行及監察方法。	5.1 Supplier Cooperation and Management 供應商合作與管理
B5.3	Describe the practices used to identify the environmental and social risks at every stage of the supply chain and relevant implementation and monitoring methods. 描述有關識別供應鏈每個環節的環境及社會風險的慣例，以及相關執行及監察方法。	5.1 Supplier Cooperation and Management 供應商合作與管理
B5.4	Describe the practices used to promote the use of green products and services at the time of selecting suppliers and relevant implementation and monitoring methods 描述在揀選供貨商時促使多用環保產品及服務的慣例，以及相關執行及監察方法。	5.1 Supplier Cooperation and Management 供應商合作與管理

# APPENDIX-INDEX TO CONTENTS OF ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG) OF HKEX (CONTINUED)

## 附錄－香港交易所的環境、社會及管治(ESG)內容索引(續)

Environmental, Social and Governance Report Guide 《環境、社會及管治報告指引》		Report content 報告內容
<b>Subject Area A. Environmental</b> 主要範疇A. 環境		
<b>層面B6：產品責任</b>		
B6	General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to health and safety, advertising, labeling and privacy matters relating to products and services provided and methods of redress. 一般披露 有關所提供產品和服務的健康與安全、廣告、標籤及私隱事宜以及補救方法的：	4.2 Take responsibility for product and place quality in the first place 產品責任質量為先 5.2 Establish Good Customer Relationship 構建良好客戶關係
B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons. 已售或已運送產品總數中因安全與健康理由而須回收的百分比。	5.2 Establish Good Customer Relationship 構建良好客戶關係
B6.2	Number of products and service related complaints received and how they are dealt with. 接獲關於產品及服務的投訴數目以及應對方法。	5.2 構建良好客戶關係
B6.3	Description of practices relating to observing and protecting intellectual property rights. 描述與維護及保障知識產權有關的慣例。	4.3 Establish Good Customer Relationship 創新增效科學進步
B6.4	Description of quality assurance process and product recall procedures. 描述質量檢定過程及產品回收程序。	4.2 Innovation, efficiency, and scientific advancement 產品責任質量為先
B6.5	Description of consumer data protection and privacy policies, how they are implemented and monitored. 描述消費者資料保障及隱私政策，以及相關執行及監察方法。	Not involved 不涉及

# APPENDIX-INDEX TO CONTENTS OF ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG) OF HKEX (CONTINUED)

## 附錄－香港交易所的環境、社會及管治(ESG)內容索引(續)

Environmental, Social and Governance Report Guide 《環境、社會及管治報告指引》	Report content 報告內容		
<b>Subject Area A. Environmental</b> 主要範疇A. 環境			
<b>Aspect B7: Anti-corruption</b> 層面B7：反貪污			
B7	<p>General Disclosure Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to bribery, extortion, fraud and money laundering.</p> <p>一般披露 有關防止賄賂、勒索、欺詐及洗黑錢的：</p> <p>(a) 政策；及 (b) 遵守對發行人有重大影響的相關法律及規例的資料。</p>	4.1	Fight Corruption and Promote Incorruptible Employment according to Law 依法依規廉潔從業
B7.1	<p>Number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the reporting period and the outcomes of the cases.</p> <p>於匯報期內對發行人或其僱員提出並已審結的貪污訴訟案件的數目及訴訟結果。</p>	4.1	Fight Corruption and Promote Incorruptible Employment according to Law 依法依規廉潔從業
B7.2	<p>Description of preventive measures and whistle-blowing procedures, how they are implemented and monitored.</p> <p>描述防範措施及舉報程序，以及相關執行及監察方法</p>	4.1	Fight Corruption and Promote Incorruptible Employment according to Law 依法依規廉潔從業
B7.3	<p>Describe the anti-corruption training provided for the directors and staff.</p> <p>描述向董事及員工提供的反貪污培訓。</p>	4.1	Fighting Corruption and Promoting Incorruptible Employment according to Law 依法依規廉潔從業
<b>Community</b> 社區			
<b>Aspect B8: Community Investment</b> 層面B8：社區投資			
B8	<p>General Disclosure Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities' interests.</p> <p>一般披露 有關以社區參與來了解營運所在社區需要和確保其業務活動會考慮社區利益的政策。</p>	5.3	Fulfilling Corporate Social Responsibility 踐行企業社會責任
B8.1	<p>Focus areas of contribution (e.g. education, environmental issues, labor needs, health, culture, sports).</p> <p>專注貢獻範疇(如教育、環境事宜、勞工需求、健康、文化、體育)。</p>	5.3	Fulfilling Corporate Social Responsibility 踐行企業社會責任
B8.2	<p>Resources contributed (e.g. money or time) to the focus area.</p> <p>在專注範疇所動用資源(如金錢或時間)。</p>	5.3	Fulfilling Corporate Social Responsibility 踐行企業社會責任

# INDEPENDENT AUDITOR'S REPORT

## 獨立核數師報告



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### To the shareholders of Guodian Technology & Environment Group Corporation Limited

(Incorporated in the People's Republic of China with limited liability)

### OPINION

We have audited the consolidated financial statements of Guodian Technology & Environment Group Corporation Limited (the “**Company**”) and its subsidiaries (the “**Group**”) set out on pages 188 to 365, which comprise the consolidated statement of financial position as at 31 December 2021, the consolidated statement of profit or loss, the consolidated statement of profit or loss and other comprehensive Income, the consolidated statement of changes in equity and the consolidated statement of cash flows for the year then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the consolidated financial statements give a true and fair view of the consolidated financial position of the Group as at 31 December 2021, and of its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with International Financial Reporting Standards (“IFRSs”) issued by the International Accounting Standards Board (“IASB”) and have been properly prepared in compliance with the disclosure requirements of the Hong Kong Companies Ordinance.

### BASIS FOR OPINION

We conducted our audit in accordance with Hong Kong Standards on Auditing (“HKASAs”) issued by the Hong Kong Institute of Certified Public Accountants (“HKICPA”). Our responsibilities under those standards are further described in the Auditor’s responsibilities for the audit of the consolidated financial statements section of our report. We are independent of the Group in accordance with the HKICPA’s Code of Ethics for Professional Accountants (the “**Code**”), and we have fulfilled our other ethical responsibilities in accordance with the Code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

### 致國電科技環保集團股份有限公司股東

(於中華人民共和國註冊成立的股份有限公司)

### 意見

我們已審計刊於第188至365頁的國電科技環保集團股份有限公司(以下簡稱「**貴公司**」)及其附屬公司(以下統稱「**貴集團**」)的合併財務報表，包括於2021年12月31日的合併財務狀況表與截至該日止年度的合併損益表、合併損益及其他綜合收益表、合併權益變動表和合併現金流量表，以及合併財務報表附註，包括主要會計政策概要。

我們認為，該等合併財務報表已根據國際會計準則理事會頒佈的《國際財務報告準則》真實而公平地反映貴集團於2021年12月31日的合併財務狀況及截至該日止年度的合併財務業績及合併現金流量，並已按照香港《公司條例》的披露要求妥為編製。

### 意見的基礎

我們已根據香港會計師公會頒佈的《香港核數準則》進行審計。我們在該等準則下承擔的責任已在本報告「核數師就審核合併財務報表須承擔的責任」部分中作進一步闡述。根據香港會計師公會頒佈的《職業會計師道德守則》(以下簡稱「**守則**」)，我們獨立於貴集團，並已履行守則中的其他專業道德責任。我們相信，我們所獲得的審計憑證能充足及適當地為我們的審計意見提供基礎。

# INDEPENDENT AUDITOR'S REPORT (CONTINUED)

## 獨立核數師報告(續)

### KEY AUDIT MATTERS

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters. For each matter below, our description of how our audit addressed the matter is provided in that context.

We have fulfilled the responsibilities described in the Auditor's responsibilities for the audit of the consolidated financial statements section of our report, including in relation to these matters. Accordingly, our audit included the performance of procedures designed to respond to our assessment of the risks of material misstatement of the consolidated financial statements. The results of our audit procedures, including the procedures performed to address the matters below, provide the basis for our audit opinion on the accompanying consolidated financial statements.

#### Key audit matter

#### How our audit addressed the key audit matter

#### Loss allowance for trade receivables and contract assets

At 31 December 2021, the Group's trade receivables and contract assets totalled RMB7,322 million after deduction of an allowance for expected credit losses of RMB1,538 million.

Management estimates the loss allowance at an amount equal to the lifetime expected credit loss for trade receivables and contract assets that do not contain a significant financing component with assessments of expected credit losses and estimated loss rates based on the ageing of balances for groupings of various customer segments with similar loss patterns, repayment histories of individual debtors, existing customer-specific and market conditions and forward-looking information. For the trade receivables and contract assets that contain a significant financing component, management estimates the loss allowance using the general approach with different stages by assessing whether the credit risk has increased significantly since initial recognition. Such assessment involves a significant degree of judgement.

Our audit procedures to assess the loss allowance for trade receivables and contract assets included the following:

- obtaining an understanding of and assessing the design, implementation and operation of key internal controls over the credit control, the receivable collection process and the process of making loss allowances for trade receivables and contract assets;
- obtaining an understanding on the key data and assumptions of the expected credit loss model adopted by management, including the historical default data, ageing of debtor balances, credit terms, recent settlement patterns and forecast of future economic conditions;
- assessing management's estimates on loss allowance by examining the information used by management, including testing the accuracy of the historical default data and evaluating whether the historical loss rates were appropriately adjusted based on current economic conditions and forward-looking information, considering the future economic conditions, such as checking the subsequent settlements and obtaining the signed detailed settlement arrangement with the customers;

### 關鍵審計事項

關鍵審計事項是根據我們專業判斷，認為對本期間綜合財務報表的審計最為重要的該等事項。該等事項於我們審核整份合併財務報表以達致我們的意見時予以處理，我們不會對該等事項出具單獨意見。就以下各項事項而言，我們在文中闡述我們於審計時如何處理該事項。

我們已履行本報告「核數師就審計合併財務報表須承擔的責任」一節所述的責任，包括與該等事項相關者。因此，我們的審計包括執行為對合併財務報表重大失實陳述風險的評估作出響應而設的程序。審計程序(包括為處理以下事項進行的程序)得出的結論為我們對隨附合併財務報表作出審計意見提供基礎。

#### 關鍵審計事項

#### 審計事項如何解決

#### 應收賬款及合同資產壞賬撥備

於二零二一年十二月三十一日，貴集團應收賬款及合同資產扣除按照預期信用損失確認的減值虧損人民幣1,538百萬元後的淨值合計約為人民幣7,322百萬元。

管理層根據預計信用損失模型估計不含重大融資成分的應收賬款及合同資產整個存續期間的預期信用損失，並根據具有相似損失類型的不同分部客戶的逾期應收款項的賬齡、每個債務人的歷史還款記錄、已存在的客戶的特定性和市場條件以及前瞻性信息評估信用損失率。對於包含重大融資成分的應收賬款及合同資產，管理層通過評估信用風險自初始確認以來是否顯著增加，在一般方法下評估不同階段下的壞賬撥備。該項評估涉及重大的主觀判斷。

我們對應收賬款及合同資產壞賬準備實施的審計程序包括以下內容：

- 了解並評估應收賬款及合同資產的信用管控、收款流程以及計提壞賬準備的關鍵內部控制的設計、執行及其運行有效性；
- 了解管理層採用的預期信用損失模型的關鍵數據和假設，包括歷史違約資料、債務人賬齡、信用條款、近期結算方式以及對未來經濟狀況的預測；
- 通過檢查管理層用於形成上述判斷的信息，評估管理層對壞賬撥備估計的合理性，包括測試歷史違約資料的準確性，評估歷史損失率是否根據當前經濟狀況和考慮了未來經濟狀況的前瞻性信息進行了適當調整，如核對後續的結算，並取得與客戶簽訂的詳細的結算安排。

# INDEPENDENT AUDITOR'S REPORT (CONTINUED)

## 獨立核數師報告(續)

### KEY AUDIT MATTERS (CONTINUED)

### 關鍵審計事項(續)

Key audit matter	How our audit addressed the key audit matter	關鍵審計事項	審計事項如何解決
<b>Loss allowance for trade receivables and contract assets (continued)</b>		<b>應收賬款及合同資產壞賬撥備(續)</b>	
<p>We identified the loss allowance for trade receivables and contract assets as a key audit matter because of the inherent uncertainty in assessing whether trade receivables and contract assets will be recovered in full and because the assessment of expected credit losses requires the exercise of significant management judgement.</p> <p>The accounting policy, significant accounting judgements and estimates and disclosures about the amount of loss allowance and the balances of trade receivables and contract assets are included in notes 2(p), 4(b), 23, 25 and 26 to the consolidated financial statements.</p>	<ul style="list-style-type: none"> <li>assessing the ageing report by comparing a sample of individual items with the relevant underlying documentation;</li> <li>assessing the assumptions and estimates made by management for the assessment of loss allowances for trade receivables and contract assets by performing a retrospective review of the historical accuracy of these assumptions and estimates, including historical default data and estimated loss rates;</li> <li>checking, on a sample basis, cash receipts from debtors to bank-in slips and billings to customers subsequent to the year end relating to the balances of trade receivables and contract assets at 31 December 2021; and</li> <li>assessing the disclosures in the consolidated financial statements in relation to the loss allowances for trade receivables and contract assets with reference to the requirements of the prevailing accounting standards.</li> </ul>	<p>我們將應收賬款及合同資產的壞賬撥備作為關鍵審計事項，是由於應收賬款、合同資產的可回收性具有固有不確定性，且預期信用損失的確認需要管理層作出重大判斷。</p> <p>應收賬款及合同資產減值虧損及淨值相關會計政策、會計判斷和估計及披露載於合併財務報表附註2(p)、4(b)、23、25及26。</p>	<ul style="list-style-type: none"> <li>通過對比單個項目樣本和相關基礎檔案，評估應收款項及合同資產賬齡報告；</li> <li>通過對應收賬款及合同資產的壞賬撥備的假設和估計(包括歷史違約數據及預期損失率)的歷史準確性執行回溯性審閱，以評估管理層採用的假設及估計是否合理；</li> <li>以抽樣方式對截止2021年12月31日應收賬款及合同資產的回款情況、開具的發票與銀行對賬單進行檢查；及</li> <li>評估應收款項和合同資產的壞賬準備是否根據現行會計準則於合併財務報表中進行了適當披露。</li> </ul>

# INDEPENDENT AUDITOR'S REPORT (CONTINUED)

## 獨立核數師報告(續)

### KEY AUDIT MATTERS (CONTINUED)

#### Key audit matter

#### How our audit addressed the key audit matter

#### Assessing potential impairment of certain property, plant and equipment and intangible assets

At 31 December 2021, the Group's property, plant and equipment ("PPE") and intangible assets were RMB3,696 million and RMB288 million, respectively. Certain subsidiaries of the Group suspended the construction of the project or were loss-making due to the government policies and the market and economic factors, which included the decreases in the market demand.

Management considered the above events and circumstances indicated that PPE and intangible assets associated with these subsidiaries might be impaired and performed impairment assessments of these assets, or the cash-generating units ("CGUs") to which these assets were allocated, to determine their recoverable amounts. The recoverable amounts are the higher of the fair value less costs of disposal of these assets or CGUs and their value in use. The impairment assessment involved a significant degree of management judgement, particularly in relation to the key assumptions adopted, including revenue growth rates, gross profit margins, long-term growth rates, inflation rates, the discount rate applied in the discounted cash flow forecast, and the key assumptions adopted in the fair value less costs of disposal model, including the remaining useful economic lives of the relevant assets and the comparable transactions.

Our audit procedures to assess potential impairment of PPE and intangible assets held by certain subsidiaries of the Group included the following:

- assessing the Group's impairment assessment model, which included assessing the impairment indicators identified by management, the identification of CGUs and the allocation of assets to those CGUs and evaluating the methodology adopted by management in the preparation of impairment assessments with reference to the requirements of the prevailing accounting standards;
- comparing the data in the discounted cash flow forecasts used for the impairment assessments with the relevant data of the Group's financial budget which was approved by the management;
- assessing the reliability of management's cash flow forecasting process by comparing the previous year's forecasts with the current year's results, discussing significant variances with management and considering the effect of such variances on the current year's forecasts;
- comparing the key assumptions adopted by management in the discounted cash flow forecasts with externally available information in relation to key inputs, which included revenue growth rates, gross profit margins, long-term growth rates and inflation rates; assessing the key assumptions adopted in the calculation of the fair value less costs of disposal of related assets, including the remaining economic useful lives by assessing whether the key assumptions were within the range adopted by other companies in the same industry, performing recalculations by using market and other external available information derived from similar industries;

### 關鍵審計事項(續)

#### 關鍵審計事項

#### 審計事項如何解決

#### 評估部分物業、廠房及設備以及無形資產的潛在減值

於2021年12月31日，貴集團物業、廠房及設備及無形資產餘額分別為人民幣3,696百萬元與人民幣288百萬元。由於政府政策原因或者市場需求下降等市場經濟因素，貴集團部分附屬公司的項目停止建設或出現經營虧損。

鑑於此，管理層認為這些附屬公司的固定資產和無形資產存在減值跡象，並對其固定資產和無形資產或相關資產所屬的現金產生單元進行減值測試，以計算其可回收金額。可回收金額為這些資產或相關資產所屬的現金產生單元的公允價值減去處置費用後的淨額與其使用價值的孰高。該減值評估涉及重大的管理層判斷，尤其是採用的關鍵假設，包括預計的收入增長率、毛利率、長期增長率、通脹率、折現現金流預測使用的折現率；以及在公允價值減處置費用法中採用的關鍵假設，包括相關資產的剩餘可使用經濟年限和可比交易；

我們就評估貴集團某些附屬持有的物業、廠房及設備及無形資產的潛在減值的審計程序包括以下程序：

- 對貴集團減值測試模型進行評價，評估管理層識別出的減值跡象、現金產生單元的劃分及其對應資產的分配，覆核管理層進行減值準備評估時採用的方法是否符合現行會計準則的要求；
- 將用作減值評估的經折現現金流量預測中使用的數據與貴集團經管理層批准的財務預算進行對比；
- 通過對比以前年度預測和當前年度的實際結果，評估管理層編製現金流量預測過程的可靠性，對於重大差異與管理層進行討論並考慮該差異對於當前年度的財務影響；
- 將管理層編製折現現金流量預測時採用的關鍵假設與外部可獲得的關鍵輸入值相關的信息進行比較，包括收入增長率、毛利率、長期增長率以及通脹率；評估計算公允價值減相關資產處置成本所採納的假設，包括剩餘的經濟使用壽命，評估這些關鍵假設是否在同一行業其他公司採用的範圍內或通過使用市場及類似行業的其他外部可用資訊進行重新計算；

# INDEPENDENT AUDITOR'S REPORT (CONTINUED)

## 獨立核數師報告(續)

### KEY AUDIT MATTERS (CONTINUED)

### 關鍵審計事項(續)

Key audit matter	How our audit addressed the key audit matter	關鍵審計事項	審計事項如何解決
<p><b>Assessing potential impairment of certain property, plant and equipment and intangible assets (continued)</b></p> <p>We identified assessing potential impairment of PPE and intangible assets held by certain subsidiaries of the Group as a key audit matter because the impairment assessments included a number of assumptions and estimates which required the exercise of significant management judgement and they were inherently uncertain.</p> <p>The accounting policy, significant accounting judgements and estimates and disclosures about the amount of provision and the balances of PPE and intangible assets are included in notes 2(m), 4(a), 15 and 18 to the consolidated financial statements.</p>	<ul style="list-style-type: none"> <li>involving our internal valuation specialists to assist us in evaluating the methodology and the discount rates used in the calculation of the recoverable amounts, including comparing the discount rates applied in the discounted cash flow forecasts with those of the comparable companies in the same industry;</li> <li>discussing with management on the key assumptions to which the outcome of the impairment assessment was most sensitive, including those relating to forecast revenue and forecast profit margins, and reviewing the sensitivity analysis; and</li> <li>assessing the disclosures in the consolidated financial statements in respect of the impairment assessment with reference to the requirements of the prevailing accounting standards.</li> </ul>	<p>評估部分物業、廠房及設備以及無形資產的潛在減值(續)</p> <p>我們把評估貴集團某些附屬公司持有的物業、廠房及設備以及無形資產的潛在減值列為關鍵審計事項，因為這些減值測試涉及眾多需要重大的管理層判斷的假設和估計，可能存在固有的不確定性。</p> <p>物業、廠房及設備以及無形資產減值虧損及淨值相關會計政策、會計判斷和估計及披露載於合併財務報表附註2(m)、4(a)、15及18。</p>	<ul style="list-style-type: none"> <li>聘請我們的內部估值專家來協助我們評估可收回金額的計算方法和折現率，包括將經折現的現金流量預測表中採用的折現率與同行業可比公司採用的折現率進行對比；</li> <li>與管理層討論對減值測試結果變動最敏感的關鍵假設，包括關於收入預測和毛利率預測的假設，復核敏感性分析；及</li> <li>評估減值評估在合併財務報表中的披露是否滿足現行會計準則披露。</li> </ul>



# INDEPENDENT AUDITOR'S REPORT (CONTINUED)

## 獨立核數師報告(續)

### KEY AUDIT MATTERS (CONTINUED)

### 關鍵審計事項(續)

Key audit matter	How our audit addressed the key audit matter	關鍵審計事項	審計事項如何解決
<p><b>Accounting for loss of control of subsidiaries</b></p> <p>During 2021, the Group lost control of several subsidiaries due to equity transfer transaction and change in power over the subsidiaries. The accounting treatment for loss of control of subsidiaries involved the use of significant management judgements and estimates for determining the date and business substance of the Group's lost control over the entities, and measuring the consideration received from the disposal, and the fair value of the remaining interests.</p> <p>More details are included in note 4 and note 40 to the consolidated financial statements.</p>	<p>Our audit procedures to assess the accounting for loss of control of subsidiaries included the following:</p> <ul style="list-style-type: none"> <li>• obtaining an understanding of and assessing the design, implementation and operation of key internal controls over the investing activities control and discussing with management about the decision-making process, and understanding the reasonableness of these transactions;</li> <li>• examining the equity transfer agreements, the amended articles of association and other supporting documents and evaluating management's judgement on whether and when the transaction resulted in loss of control of subsidiaries.</li> <li>• checking the accounting treatment of loss of control of subsidiaries and reviewing the rationality of the calculation of the net gains on disposal of subsidiaries.</li> <li>• evaluating the independent valuers' qualifications, professional competence and independence and reviewing the profit forecast and cash flow projections, the assumptions used in evaluation and involved our internal valuation expert in assessing the valuation method adopted in determining the fair values of the remaining interests, and the discounted rate used by management.</li> <li>• assessing the disclosures in the consolidated financial statements in relation to the loss of control of subsidiaries with reference to the requirements of the prevailing accounting standards.</li> </ul>	<p><b>子公司失去控制權的會計處理</b></p> <p>於2021年，貴集團因股權轉讓和變更控制權等原因，喪失對部分子公司的控制權。喪失對子公司控制權會計處理涉及重大管理層判斷和估計，包括喪失控制權的判斷依據、喪失控制權日的判斷、處置對價和剩餘股權的公允價值的確定等。</p> <p>具體披露信息請參見合併財務報表附註4和附註40。</p>	<p>我們就評估貴集團喪失對子公司控制權的審計程序包括以下程序：</p> <ul style="list-style-type: none"> <li>• 了解並評估與投資活動相關的內部控制的設計、執行及其運行有效性，向管理層訪談交易的決策流程並瞭解商業合理性；</li> <li>• 檢查股權轉讓協議和被投資公司修改後的公司章程等支持性文件，並評估管理層關於喪失控制權的判斷、喪失控制權日的確定。</li> <li>• 檢查喪失控制權日的會計處理，並复核處置損益計算的準確性；</li> <li>• 評估資產評估師的資格、專業勝任能力、獨立性，檢查評估所採用的盈利預測和現金流量預測以及評估中使用的關鍵假設，並引入安永內部評估專家檢查評估方法、管理層使用的折現率假設的合理性。</li> <li>• 評估喪失對子公司控制權是否根據現行會計準則於合併財務報表中進行了適當披露。</li> </ul>

## INDEPENDENT AUDITOR'S REPORT (CONTINUED) 獨立核數師報告(續)

### OTHER INFORMATION INCLUDED IN THE ANNUAL REPORT

The directors of the Company are responsible for the other information. The other information comprises the information included in the Annual Report, other than the consolidated financial statements and our auditor's report thereon.

Our opinion on the consolidated financial statements does not cover the other information and we do not express any form of assurance conclusion thereon.

In connection with our audit of the consolidated financial statements, our responsibility is to read the other information and, in doing so, consider whether the other information is materially inconsistent with the consolidated financial statements or our knowledge obtained in the audit or otherwise appears to be materially misstated. If, based on the work we have performed, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

### RESPONSIBILITIES OF THE DIRECTORS FOR THE CONSOLIDATED FINANCIAL STATEMENTS

The directors of the Company are responsible for the preparation of the consolidated financial statements that give a true and fair view in accordance with IFRSs issued by the IASB and the disclosure requirements of the Hong Kong Companies Ordinance, and for such internal control as the directors determine is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, the directors of the Company are responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless the directors of the Company either intend to liquidate the Group or to cease operations or have no realistic alternative but to do so.

The directors of the Company are assisted by the Audit Committee in discharging their responsibilities for overseeing the Group's financial reporting process.

### 年報內刊載的其他信息

貴公司董事需對其他信息負責。其他信息包括刊載於年報內的信息，但不包括合併財務報表及我們的核數師報告。

我們對合併財務報表的意見並不涵蓋其他信息，我們亦不對該等其他信息發表任何形式的鑑證結論。

結合我們對合併財務報表的審計，我們的責任是閱讀其他信息及，在此過程中，考慮其他信息是否與合併財務報表或我們在審計過程中所了解的情況存在重大抵觸或者似乎存在重大錯誤陳述的情況。基於我們已執行的工作，如果我們認為其他信息存在重大錯誤陳述，我們需要報告該事實。我們就此並無須報告事項。

### 董事就合併財務報表須承擔的責任

董事須負責根據國際會計準則理事會頒佈的《國際財務報告準則》及香港《公司條例》有關披露要求編製及真實而公平地列報該等合併財務報表，並負責董事認為編製合併財務報表所必需的有關內部監控，以確保有關合併財務報表不存在由於欺詐或錯誤而導致的重大錯誤陳述。

在編製合併財務報表時，董事須負責評估貴集團持續經營的能力，並披露與持續經營有關的事項（如適用）。除非董事有意將貴集團清盤，或停止營運，或除此之外並無其他實際的可行的辦法，否則董事須採用以持續經營為基礎的會計法。

審計委員會協助董事履行監督貴集團的財務報告流程的責任。

## INDEPENDENT AUDITOR'S REPORT (CONTINUED) 獨立核數師報告(續)

### AUDITOR'S RESPONSIBILITIES FOR THE AUDIT OF THE CONSOLIDATED FINANCIAL STATEMENTS

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Our report is made solely to you, as a body, and for no other purpose. We do not assume responsibility towards or accept liability to any other person for the contents of this report.

Reasonable assurance is a high level of assurance but is not a guarantee that an audit conducted in accordance with HKSA's will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with HKSA's, we exercise professional judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the directors.

### 核數師就審計合併財務報表承擔的責任

我們的目標是對合併財務報表整體是否不存在由於欺詐或錯誤而導致的重大錯誤陳述取得合理保證，並出具包括我們意見的核數師報告。我們僅向整體成員報告。除此以外，我們的報告不可用作其他用途。我們概不就本報告的內容，對任何其他人士負責或承擔法律責任。

合理保證是高水平的保證，但不能保證按照《香港審計準則》進行的審計，在某一重大錯誤陳述存在時總能發現。錯誤陳述可以由欺詐或錯誤引起，如果合理預期它們單獨或匯總起來可能影響合併財務報表使用者依賴財務報表所作出的經濟決定，則有關的錯誤陳述可被視作重大。

作為根據《香港會計準則》進行審計的一部分，我們在整個審計過程中運用職業判斷並保持職業懷疑。我們還：

- 識別和評估由於欺詐或錯誤而導致合併財務報表存在重大錯誤陳述的風險，設計及執行審計程序以應對這些風險，以及獲取充足和適當的審計憑證，作為我們意見的基礎。由於欺詐可能涉及串謀、偽造、蓄意遺漏、虛假陳述，或凌駕於內部控制之上，因此未能發現因欺詐而導致的重大錯誤陳述的風險高於未能發現因錯誤而導致的重大錯誤陳述的風險。
- 了解與審計相關的內部控制，以設計適當的審計程序，但目的並非對貴集團內部控制的有效性發表意見。
- 評價董事所採用會計政策的恰當性及作出會計估計和相關披露的合理性。

## INDEPENDENT AUDITOR'S REPORT (CONTINUED) 獨立核數師報告(續)

### AUDITOR'S RESPONSIBILITIES FOR THE AUDIT OF THE CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

- Conclude on the appropriateness of the directors' use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with the Audit Committee regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide the Audit Committee with a statement that we have complied with relevant ethical requirements regarding independence and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, actions taken to eliminate threats or safeguards applied.

From the matters communicated with the Audit Committee, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

### 核數師就審計合併財務報表承擔的責任(續)

- 對董事採用持續經營會計基礎的恰當性作出結論。根據所獲取的審計憑證，確定是否存在與事項或情況有關的重大不確定性，從而可能導致對貴集團的持續經營能力產生重大疑慮。如果我們認為存在重大不確定性，則有必要在核數師報告中提請使用者注意合併財務報表中的相關披露。假若有關的披露不足，則我們應當發表非無保留意見。我們的結論是基於核數師報告日止所取得的審計憑證。然而，未來事項或情況可能導致貴集團不能持續經營。
- 評價合併財務報表的整體列報方式、結構和內容，包括披露，以及合併財務報表是否中肯反映相關交易和事項。
- 就貴集團內各實體或業務活動的財務資料獲得充足、適當的審核憑證，以就合併財務報表發表意見。我們須負責指導、監督和執行貴集團的審計工作。我們須為我們的審計意見承擔全部責任。

我們就審計工作的計劃範圍和時間、在審計過程中的主要發現(包括內部控制的任何重大缺失)及其他事項與審計委員會進行溝通。

我們亦向審計委員會作出聲明，確認我們已遵守有關獨立性的道德要求，並就所有被合理認為可能影響核數師獨立性的關係和其他事宜，以及在適用的情況下，為消除威脅而採取的行為或者防範措施。

我們通過與審計委員會溝通，確定哪些是本期合併財務報表審計工作的最重要事項，即關鍵審計事項。除非法律或法規不容許公開披露此等事項或在極罕有的情況下，我們認為披露此等事項可合理預期的不良後果將超過公眾知悉此等事項的利益而不應在報告中予以披露，否則我們會在核數師報告中描述此等事項。

## INDEPENDENT AUDITOR'S REPORT (CONTINUED) 獨立核數師報告(續)

### AUDITOR'S RESPONSIBILITIES FOR THE AUDIT OF THE CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

### 核數師就審計合併財務報表承擔的責任(續)

The engagement partner on the audit resulting in this independent auditor's report is Bennett S.H. Wai.

負責簽發獨立核數師報告的項目合夥人為韋少雄。

**Ernst & Young**  
*Certified Public Accountants*

Hong Kong  
29 March 2022

安永會計師事務所  
執業會計師

香港  
2022年3月29日

# CONSOLIDATED STATEMENT OF PROFIT OR LOSS

## 合併損益表

For the year ended 31 December 2021 (Amounts expressed in Renminbi ("RMB") unless otherwise stated)  
截至2021年12月31日止年度 (除非另有說明，以人民幣列示)

		Notes 附註	2021 RMB'000 人民幣千元	2020 RMB'000 人民幣千元
<b>Revenue</b>	收入	6	<b>12,073,257</b>	15,624,478
Cost of sales	銷售成本		<b>(11,352,727)</b>	(12,669,611)
<b>Gross profit</b>	毛利		<b>720,530</b>	2,954,867
Other revenue	其他收入	7	<b>258,578</b>	315,344
Other income	其他收益	8	<b>1,022,166</b>	22,652
Other expenses	其他費用	8	<b>(10,778)</b>	(111,342)
Selling and distribution expenses	銷售及分銷開支		<b>(793,097)</b>	(1,094,852)
Administrative expenses	行政開支		<b>(1,859,736)</b>	(1,380,365)
<b>(Loss)/profit from operations</b>	經營(虧損)/利潤		<b>(662,337)</b>	706,304
Finance costs	財務成本	9	<b>(424,481)</b>	(573,700)
Share of profits less losses of associates	應佔聯營公司利潤減虧損		<b>(15,123)</b>	72,331
<b>(Loss)/profit before taxation</b>	稅前(虧損)/利潤	10	<b>(1,101,941)</b>	204,935
Income tax	所得稅	11	<b>(107,715)</b>	(249,368)
<b>Loss for the year</b>	本年虧損		<b>(1,209,656)</b>	(44,433)
<b>Attributable to:</b>	歸屬於：			
– Equity shareholders of the Company	– 本公司權益股東	14	<b>(839,574)</b>	57,123
– Non-controlling interests	– 非控股權益		<b>(370,082)</b>	(101,556)
<b>Basic and diluted (loss)/earnings per share (expressed in RMB cent)</b>	每股基本及攤薄(虧損)/盈利 (以人民幣分列示)	14	<b>(13.85)</b>	0.94

# CONSOLIDATED STATEMENT OF PROFIT OR LOSS AND OTHER COMPREHENSIVE INCOME

## 合併損益及其他綜合收益表

For the year ended 31 December 2021 (Amounts expressed in RMB unless otherwise stated)  
截至2021年12月31日止年度 (除非另有說明，以人民幣列示)

		2021 <b>RMB'000</b> 人民幣千元	2020 <b>RMB'000</b> 人民幣千元
<b>Loss for the year</b>	<b>本年虧損</b>	<b>(1,209,656)</b>	(44,433)
<b>Other comprehensive income for the year</b>	<b>本年其他綜合收益</b>		
Items that will not be reclassified to profit or loss:	不會重分類計入損益的項目：		
– Equity investments at fair value through other comprehensive income (“FVOCI”):	– 以公允價值計量且其變動計入其他綜合收益的股權投資：		
– changes in fair value	– 公允價值變動	<b>1,737,619</b>	1,000,747
– income tax effect	– 所得稅影響	<b>(83,131)</b>	(249,468)
Items that may be reclassified subsequently to profit or loss:	其後將重分類計入損益的項目：		
– Exchange differences on translation of financial statements of operations outside the People’s Republic of China (the “PRC”)	– 換算中華人民共和國(「中國」)境外業務財務報表產生的匯兌差額	<b>(83)</b>	(1,269)
<b>Other comprehensive income for the year, net of tax</b>	<b>本年其他綜合收益，稅後淨額</b>	<b>1,654,405</b>	750,010
<b>Total comprehensive income for the year</b>	<b>本年綜合收益總額</b>	<b>444,749</b>	705,577
<b>Attributable to:</b>	<b>歸屬於：</b>		
Equity shareholders of the Company	本公司權益股東	<b>814,831</b>	807,133
Non-controlling interests	非控股權益	<b>(370,082)</b>	(101,556)
<b>Total comprehensive income for the year</b>	<b>本年綜合收益總額</b>	<b>444,749</b>	705,577

# CONSOLIDATED STATEMENT OF FINANCIAL POSITION

## 合併財務狀況表

As at 31 December 2021 (Amounts expressed in RMB unless otherwise stated)  
於2021年12月31日(除非另有說明,以人民幣列示)

		Notes 附註	2021 RMB'000 人民幣千元	2020 RMB'000 人民幣千元
<b>Non-current assets</b>	<b>非流動資產</b>			
Property, plant and equipment	物業、廠房及設備	15	<b>3,696,168</b>	4,631,720
Investment properties	投資性物業	16	<b>385,577</b>	209,501
Intangible assets	無形資產	18	<b>287,713</b>	824,062
Goodwill	商譽	19	<b>5,304</b>	57,591
Interests in associates	對聯營公司的投資	21	<b>1,123,944</b>	484,699
Other equity investments	其他權益投資	22	<b>2,289,712</b>	2,227,673
Restricted deposits	受限制存款	28	<b>1,598</b>	11,812
Other non-current assets	其他非流動資產	23	<b>1,125,175</b>	4,094,876
Deferred tax assets	遞延稅項資產	34(a)	<b>380,623</b>	691,521
<b>Total non-current assets</b>	<b>非流動資產總額</b>		<b>9,295,814</b>	13,233,455
<b>Current assets</b>	<b>流動資產</b>			
Inventories	存貨	24	<b>897,296</b>	4,908,220
Contract assets	合同資產	25	<b>2,029,666</b>	1,979,535
Trade and bills receivables	應收賬款及票據	26	<b>5,698,639</b>	8,676,786
Deposits, prepayments and other receivables	按金、預付款項及其他應收款項	27	<b>1,589,781</b>	2,221,853
Tax recoverable	可收回稅項		<b>35,875</b>	71,128
Restricted deposits	受限制存款	28	<b>103,179</b>	408,556
Cash at bank and in hand	銀行存款及庫存現金	29	<b>4,820,740</b>	5,283,197
<b>Total current assets</b>	<b>流動資產總額</b>		<b>15,175,176</b>	23,549,275
<b>Current liabilities</b>	<b>流動負債</b>			
Borrowings	借款	30(b)	<b>4,222,619</b>	7,400,446
Trade and bills payables	應付賬款及票據	31	<b>6,441,443</b>	10,715,283
Other payables and accruals	其他應付款項	32	<b>1,121,363</b>	1,333,670
Contract liabilities	合同負債	33	<b>1,176,341</b>	2,596,279
Income tax payable	應付所得稅		<b>15,405</b>	44,726
Provisions	撥備	35	<b>49,416</b>	381,661
<b>Total current liabilities</b>	<b>流動負債總額</b>		<b>13,026,587</b>	22,472,065
<b>Net current assets</b>	<b>流動資產淨額</b>		<b>2,148,589</b>	1,077,210
<b>Total assets less current liabilities</b>	<b>資產總額減流動負債</b>		<b>11,444,403</b>	14,310,665



# CONSOLIDATED STATEMENT OF FINANCIAL POSITION (CONTINUED)

## 合併財務狀況表(續)

As at 31 December 2021 (Amounts expressed in RMB unless otherwise stated)  
於2021年12月31日(除非另有說明,以人民幣列示)

		Notes	2021 <b>RMB'000</b> 人民幣千元	2020 <b>RMB'000</b> 人民幣千元
		附註		
<b>Non-current liabilities</b>	<b>非流動負債</b>			
Borrowings	借款	30(a)	<b>1,969,857</b>	4,435,119
Deferred income	遞延收益	36	<b>198,417</b>	298,177
Deferred tax liabilities	遞延稅項負債	34(a)	<b>457,853</b>	501,984
Lease liabilities	租賃負債	17	<b>95,884</b>	70,846
Provisions	撥備	35	<b>5,162</b>	184,726
Other non-current liabilities	其他非流動負債	37	<b>234,971</b>	675,675
<b>Total non-current liabilities</b>	<b>非流動負債總額</b>		<b>2,962,144</b>	6,166,527
<b>NET ASSETS</b>	<b>資產淨額</b>		<b>8,482,259</b>	8,144,138
<b>CAPITAL AND RESERVES</b>	<b>資本及儲備</b>			
Share capital	股本	38(c)	<b>6,063,770</b>	6,063,770
Reserves	儲備		<b>125,448</b>	(486,320)
<b>Total equity attributable to equity shareholders of the Company</b>	<b>歸屬於本公司權益股東的權益總額</b>		<b>6,189,218</b>	5,577,450
Non-controlling interests	非控股權益	20(iii)	<b>2,293,041</b>	2,566,688
<b>TOTAL EQUITY</b>	<b>權益總額</b>		<b>8,482,259</b>	8,144,138

Approved and authorised for issue by the board of directors on 29 March 2022.

董事會於2022年3月29日批准及授權刊發。

CHEN Dongqing  
Executive Director  
陳冬青  
執行董事

LI Caiyun  
Executive Director  
李彩雲  
執行董事

# CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

## 合併權益變動表

For the year ended 31 December 2021 (Amounts expressed in RMB unless otherwise stated)  
截至2021年12月31日止年度(除非另有說明，以人民幣列示)

		Attributable to equity shareholders of the Company 歸屬於本公司權益股東									
		Share capital	Treasury shares	Capital reserve	PRC statutory reserve	Exchange reserve	Fair value reserve (non-recycling)	Accumulated losses	Sub-total	Non-controlling interests	Total equity
		股本	庫存股	資本儲備	中國法定公積	匯兌儲備	(不重新計入) 公允價值儲備	累計虧損	小計	非控股權益	權益總額
		RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000
		人民幣千元	人民幣千元	人民幣千元	人民幣千元	人民幣千元	人民幣千元	人民幣千元	人民幣千元	人民幣千元	人民幣千元
		Note 38(c)		Note 38(a)(i)	Note 38(a)(ii)	Note 38(d)(iii)	Note 38(d)(iv)				
		附註38(c)		附註38(a)(i)	附註38(a)(ii)	附註38(d)(iii)	附註38(d)(iv)				
Balance at 31 December 2020 and 1 January 2021	2020年12月31日及2021年1月1日結餘	6,063,770	-	1,057,753	129,332	1,229	1,002,553	(2,677,187)	5,577,450	2,566,688	8,144,138
Changes in equity for 2021:	2021年權益變動：										
Loss for the year	本年虧損	-	-	-	-	-	-	(839,574)	(839,574)	(370,082)	(1,209,656)
Other comprehensive income	其他綜合收益	-	-	-	-	(83)	1,654,488	-	1,654,405	-	1,654,405
<b>Total comprehensive income</b>	<b>綜合收益總額</b>	-	-	-	-	(83)	1,654,488	(839,574)	814,831	(370,082)	444,749
Capital injection from non-controlling interests (Notes 37 and 39)	非控股股東注資(附註37和附註39)	-	-	(195,991)	-	-	-	-	(195,991)	415,542	219,551
Disposal of subsidiaries (Note 40)	處置附屬公司(附註40)	-	-	-	-	-	-	-	-	(283,419)	(283,419)
Equity-settled share-based payment*	股權結算股份支付*	-	(33,705)	26,633	-	-	-	-	(7,072)	7,385	313
Dividends paid by subsidiaries to non-controlling equity owners	附屬公司向非控股權益所有者支付股息	-	-	-	-	-	-	-	-	(43,073)	(43,073)
Transfer of fair value reserve upon the disposal of equity investment of FVOCI	處置以公允價值計量且其變動計入其他綜合收益的權益投資的公允價值儲備	-	-	-	-	-	(1,405,094)	1,405,094	-	-	-
Balance at 31 December 2021	2021年12月31日結餘	6,063,770	(33,705)	888,395	129,332	1,146	1,251,947	(2,111,667)	6,189,218	2,293,041	8,482,259

\* On 25 February 2021, Yantai Longyuan Power Technology Co., Ltd. ("Longyuan Technology"), a subsidiary of the Company, granted 9,364,000 restricted shares to incentive participants at the grant price of RMB3.67 per share ("Restricted Shares Incentive Plan"). According to the Restricted Shares Incentive Plan, Longyuan Technology should repurchase the restricted shares from participants if the performance assessment target is not achieved in a certain period of the sales restriction release period. The Group recognized the repurchase obligation on the date of the receiving the share subscription amounting to approximately RMB34,366,000 from the participants. Upon the completion of the share subscription by the participants, the share of the interest by the Company in Longyuan Technology was diluted from 23.25% to 22.84% (Note 39).

\* 2021年2月25日，本公司的子公司煙台龍源電力技術股份有限公司(「龍源技術」)以每股人民幣3.67元的授予價格向激勵對象授予限制性股票9,364,000股(「限制性股票激勵計劃」)。根據限制性股票激勵計劃，如果在某個解除限售期業績考核未達標，龍源技術需回購當期所有未解除限售的限制性股票。本集團在收到被激勵對象約人民幣34,366,000元的股票認購款時確認了對應的回購義務負債。隨著被激勵對象繳納股票認購款的完成，本公司在龍源技術的持股比例從23.25%稀釋至22.84%(附註39)。

# CONSOLIDATED STATEMENT OF CHANGES IN EQUITY (CONTINUED)

## 合併權益變動表(續)

For the year ended 31 December 2021 (Amounts expressed in RMB unless otherwise stated)  
截至2021年12月31日止年度(除非另有說明,以人民幣列示)

		Attributable to equity shareholders of the Company 歸屬本公司權益股東							Non-controlling interests	Total equity
		Share capital	Capital reserve	PRC statutory reserve	Exchange reserve	Fair value reserve (non-recycling)	Accumulated losses	Sub-total		
		股本	資本儲備	中國法定公積	匯兌儲備	(不重新計入)	累計虧損	小計	非控股權益	權益總額
		RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000
		人民幣千元	人民幣千元	人民幣千元	人民幣千元	人民幣千元	人民幣千元	人民幣千元	人民幣千元	人民幣千元
		Note 38(c)	Note 38(d)(i)	Note 38(d)(ii)	Note 38(d)(iii)	Note 38(d)(iv)				
		附註38(c)	附註38(d)(i)	附註38(d)(ii)	附註38(d)(iii)	附註38(d)(iv)				
<b>Balance at 31 December 2019 and 1 January 2020</b>	<b>2019年12月31日及2020年1月1日結餘</b>	6,063,770	1,053,550	129,332	2,498	254,148	(2,737,184)	4,766,114	2,795,604	7,561,718
<b>Changes in equity for 2020:</b>	<b>2020年權益變動:</b>									
Loss for the year	本年虧損	-	-	-	-	-	57,123	57,123	(101,556)	(44,433)
Other comprehensive income	其他綜合收益	-	-	-	(1,269)	751,279	-	750,010	-	750,010
<b>Total comprehensive income</b>	<b>綜合收益總額</b>	-	-	-	(1,269)	751,279	57,123	807,133	(101,556)	705,577
Capital injection from a non-controlling interest	非控股股東注資	-	-	-	-	-	-	-	17,500	17,500
Dividends paid by subsidiaries to non-controlling equity owners	附屬公司向非控股權益所有者支付股息	-	-	-	-	-	-	-	(113,546)	(113,546)
Acquisition of a non-controlling interest in a subsidiary (*)	收購子公司的少數股權*	-	4,203	-	-	-	-	4,203	(31,314)	(27,111)
Transfer of fair value reserve upon the disposal of equity investment of FVOCI	處置以公允價值計量且其變動計入其他綜合收益的股權投資的公允價值儲備	-	-	-	-	(2,874)	2,874	-	-	-
<b>Balance at 31 December 2020</b>	<b>2020年12月31日結餘</b>	6,063,770	1,057,753	129,332	1,229	1,002,553	(2,677,187)	5,577,450	2,566,688	8,144,138

\* Guodian Technology & Environment Group Corporation Limited (the "Company") and Beijing Huadian Tiande Assets Operation Co., Ltd. ("Huadian Tiande") held 90% and 10% equity interests of Guoneng I&C Interconnection Technology Co., Ltd. respectively. On 10 January 2020, pursuant to the equity transfer agreement, the Company acquired 10% equity interest of Guoneng I&C from Huadian Tiande at a consideration of RMB27,111,294. The acquisition was completed on 21 April 2020, upon which, China Energy I&C Interconnection Technology Co., Ltd. became a wholly owned subsidiary of the Company.

\* 國電科技環保集團股份有限公司(「本公司」)和北京華電天德資產經營有限公司(「華電天德」)分別持有國能信控互聯技術有限公司90%和10%的股權。2020年1月10日,根據股權轉讓協定,公司以人民幣27,111,294元從華電天德收購國能信控互聯技術有限公司的10%股權。收購於2020年4月21日完成,至此國能信控互聯技術有限公司成為本公司的全資子公司。

# CONSOLIDATED STATEMENT OF CASH FLOWS

## 合併現金流量表

For the year ended 31 December 2021 (Amounts expressed in RMB unless otherwise stated)  
截至2021年12月31日止年度(除非另有說明,以人民幣列示)

	Notes 附註	2021 RMB'000 人民幣千元	2020 RMB'000 人民幣千元
<b>Cash flows from operating activities</b>	來自經營活動的現金流		
(Loss)/profit before taxation	稅前(虧損)/利潤	(1,101,941)	204,935
Adjustments for:	調整為:		
Depreciation	折舊	10 346,397	413,176
Amortisation	攤銷	10 132,362	79,153
Net losses on disposals of property, plant and equipment	出售物業、廠房及設備、無形資產收益淨額	8 1,350	7,300
Impairment loss/(reversal of impairment) on trade and other receivables and contract assets	應收賬款、其他應收款項及合同資產減值虧損/(轉回)	10 163,087	(124,466)
Impairment loss on property, plant and equipment	物業、廠房、設備及無形資產減值損失	10 41,777	56,046
Reversal of impairment loss on other non-current assets	其他非流動資產減值損失的轉回	10 (530)	-
Write-down of inventories	存貨撇減	24 273,068	1,813
Finance costs	財務成本	9 424,481	573,700
Interest income	利息收入	7 (91,836)	(97,509)
Government grants	政府補助	36 (45,980)	(31,454)
Dividend income from equity securities	非上市權益證券的股息收入	7 (29,439)	(40,699)
Net gain on disposal of a subsidiary	處置附屬公司淨收益	8 (1,014,800)	(989)
Share of profits less losses of associates	應佔聯營公司利潤減虧損	15,123	(72,331)
Equity-settled share based expense	股份支付費用	313	-
Value-add taxes and tax surcharges related to disposal of equity investments designated at FVOCI	處置以公允價值計量且其變動計入其他綜合收益的權益投資的增值稅及附加稅費用	86,518	-
Changes in working capital:	營運資金的變化:		
Decrease/(increase) in inventories	存貨減少/(增加)	508,746	(762,181)
(Increase)/decrease in contract assets	合同資產的(增加)/減少	(962,712)	308,390
(Increase)/decrease in trade and bills receivables	應收賬款及票據的(增加)/減少	(45,495)	1,313,920
Decrease/(increase) in deposits, prepayments and other receivables	按金、預付款項和其他應收款的減少/(增加)	498,409	(657,693)
Decrease/(increase) in other non-current assets	其他非流動資產的減少/(增加)	115,332	(301,243)
Increase in trade and bills payables	應付賬款及票據的增加	516,048	775,746
Increase/(decrease) in other payables	其他應付款項的增加/(減少)	128,472	(148,930)
(Decrease)/increase in contract liabilities	合同負債的(減少)/增加	(312,262)	421,636
Decrease in provision for warranty	撥備的減少	(11,406)	(26,212)
<b>Cash (used in)/generated from operations</b>	經營中(使用)/產生的現金	(364,918)	1,892,108
Income tax paid	已付所得稅	(44,064)	(76,104)
<b>Net cash (used in)/generated from operating activities</b>	經營活動(使用)/產生的淨現金	(408,982)	1,816,004

## CONSOLIDATED STATEMENT OF CASH FLOWS (CONTINUED) 合併現金流量表(續)

For the year ended 31 December 2021 (Amounts expressed in RMB unless otherwise stated)  
截至2021年12月31日止年度(除非另有說明,以人民幣列示)

		2021	2020
		<i>RMB'000</i>	<i>RMB'000</i>
		人民幣千元	人民幣千元
<b>Cash flows from investing activities</b>	<b>投資活動產生的現金流</b>		
Payments for purchase of property, plant and equipment, lease prepayments and intangible assets	採購物業、廠房及設備, 預付土地租賃款及無形資產支出	<b>(1,379,876)</b>	(493,522)
Proceeds from disposal of an associate	出售聯營公司之現金淨額	<b>50,000</b>	50,000
Disposals of subsidiaries, net of cash disposed of	處置子公司之現金淨額	<b>306,450</b>	-
Payments for advances to related parties	給關聯方的墊款	<b>(300)</b>	(15,000)
Payments for advances to third parties	給第三方的墊款	<b>(87)</b>	(6,154)
Proceeds from repayment of advances by third parties	第三方償還墊款	<b>635</b>	82,017
Increase in deposits with banks	銀行存款的增加	<b>(984,000)</b>	(1,110,000)
Withdrawal of deposits with banks	銀行存款的提取	<b>1,210,000</b>	1,241,500
Purchase of short-term investments	購買短期投資	-	(165,000)
Proceeds from short-term investment	短期投資之收回	<b>50,000</b>	170,000
Government grants received	收到的政府補助	<b>57,649</b>	34,089
Proceeds from disposals of property, plant and equipment and intangible assets	出售物業、廠房及設備及無形資產所得款項	<b>1,732</b>	727
Proceeds from disposal of equity investments designated at FVOCI	處置指定為以公允價值計量且其變動計入其他綜合收益的股權投資	<b>1,591,208</b>	2,874
Dividends received	已收股息	<b>75,863</b>	96,625
Interest received	已收利息	<b>10,945</b>	12,280
Capital injection of shareholding in associates	向聯營公司註資	<b>(39,210)</b>	(7,800)
<b>Net cash from/(used in) investing activities</b>	<b>投資活動產生/(使用)的淨現金</b>	<b>951,009</b>	(107,364)

## CONSOLIDATED STATEMENT OF CASH FLOWS (CONTINUED)

### 合併現金流量表(續)

For the year ended 31 December 2021 (Amounts expressed in RMB unless otherwise stated)  
截至2021年12月31日止年度(除非另有說明，以人民幣列示)

			2021	2020
		Notes	RMB'000	RMB'000
		附註	人民幣千元	人民幣千元
<b>Cash flows from financing activities</b>	<b>融資活動產生的現金流</b>			
Proceeds from borrowings	貸款所得款項	29(c)	<b>8,073,883</b>	8,905,360
Capital injection from non-controlling equity owners	非控股權益所有者的注資		<b>350,661</b>	-
Proceeds from transfer of share to non-controlling equity owner	轉讓股權給非控股股東的收款		<b>97,476</b>	-
Decrease in restricted deposits	受限制存款的減少		<b>353,891</b>	675,908
Increase in restricted deposits	受限制存款的增加		<b>(209,202)</b>	(466,134)
Repayment of borrowings	償還貸款	29(c)	<b>(7,927,070)</b>	(8,793,711)
Repayment of private placement notes	償還私人配售債務融資工具	29(c)	<b>(1,000,000)</b>	-
Dividends paid by subsidiaries to non-controlling equity owners	附屬公司向非控股權益所有者支付股息		<b>(43,073)</b>	(132,905)
Payments for acquisition of non-controlling interests in a subsidiary	支付收購子公司非控股權益		-	(27,111)
Interest paid	已付利息	29(c)	<b>(422,312)</b>	(575,123)
Principal portion of lease payments	支付租賃本金部分	29(c)	<b>(52,658)</b>	(64,279)
<b>Net cash used in financing activities</b>	<b>融資活動使用的淨現金</b>		<b>(778,404)</b>	(477,995)
<b>Net (decrease)/increase in cash and cash equivalents</b>	<b>現金及現金等價物的淨(減少)/增加額</b>		<b>(236,377)</b>	1,230,645
<b>Cash and cash equivalents at 1 January</b>	<b>於1月1日的現金及現金等價物</b>		<b>4,373,197</b>	3,145,422
Effect of foreign exchange rate changes	外匯匯率變化的影響		<b>(80)</b>	(2,870)
<b>Cash and cash equivalents at 31 December</b>	<b>於12月31日的現金及現金等價物</b>		<b>4,136,740</b>	4,373,197

# NOTES TO FINANCIAL STATEMENTS

## 財務報表附註

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 1. PRINCIPAL ACTIVITIES AND ORGANISATION

Guodian Technology & Environment Group Corporation Limited (the “Company”) was established on 6 April 2001 in the People’s Republic of China (the “PRC”) as a state-owned enterprise with limited liability. The Company was converted to a joint stock company with limited liability in the PRC on 16 May 2011. On 30 December 2011, the Company’s H shares were listed on The Stock Exchange of Hong Kong Limited (the “Stock Exchange”). At the extraordinary general meeting held on 23 December 2019, the Company considered and adopted the proposal of the change of its name into CHN Energy Technology & Environment Group Corporation Limited, which is currently in the process of industrial and commercial change registration. The registered office address of the Company is Suite 1101, 11/F, Building 1 Yard 16, W.4th Ring Middle Road Haidian District, Beijing, PRC.

The Company is an investment holding company. The Company’s subsidiaries are involved in the following principal activities:

- environmental protection
- energy conservation solutions
- wind power products and services
- others, including wind and solar power generation and sale of other electric power control system related products

The directors consider that the ultimate holding company and parent of the Company is China Energy Investment Corporation Limited (“China Energy”), a company registered in the PRC and controlled by State-owned Assets Supervision and Administration Commission.

### 2. SIGNIFICANT ACCOUNTING POLICIES

#### (a) Statement of compliance

These financial statements have been prepared in accordance with International Financial Reporting Standards (“IFRSs”), which include all applicable International Financial Reporting Standards, International Accounting Standards (“IASs”) and interpretations issued by the International Accounting Standards Board (the “IASB”) and the disclosure requirements of the Hong Kong Companies Ordinance. These financial statements also comply with the applicable disclosure provisions of the Rules Governing the Listing of Securities on the Stock Exchange. Significant accounting policies adopted by the Group are disclosed below.

### 1. 主營業務及組織

國電科技環保集團股份有限公司(「本公司」)前身為國電科技環保集團有限公司，成立於2001年4月6日，為國有有限責任企業。本公司於2011年5月16日轉制為中國股份有限公司。2011年12月30日，本公司的H股在香港聯合交易所有限公司(「香港聯交所」)上市。本公司於2019年12月23日召開的臨時股東大會上審議通過有關公司更名事項，擬更名為國家能源科技環保集團股份有限公司，目前正在辦理工商變更登記中。本公司註冊地址為北京市海澱區西四環中路16號院1樓11層1101。

本公司為投資控股公司。本公司的附屬公司主要參與以下業務：

- 環保
- 節能解決方案
- 風電產品及服務
- 其他，包括風力和太陽能發電以及其他電力控制系統相關產品的銷售

董事認為本公司的最終控股公司及母公司為國家能源投資集團有限責任公司(「國家能源集團」)，一家註冊地在中國並且由國有資產監督管理委員會控制的公司。

### 2. 主要會計政策

#### (a) 合規聲明

本財務報表乃根據國際財務報告準則(「國際財務報告準則」)編製，包括國際會計準則理事會(「國際會計準則理事會」)頒佈的所有適用國際財務報告準則、國際會計準則(「國際會計準則」)及詮釋以及香港公司條例的披露規定。本財務報表亦符合香港聯交所《證券上市規則》的適用披露條文。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (a) Statement of compliance (Continued)

The IASB has issued certain new and revised IFRSs that are first effective or available for early adoption for the current accounting period of the Group. Note 3 provides information on any changes in accounting policies resulting from initial application of these developments to the extent that they are relevant to the Group for the current and prior accounting periods reflected in these financial statements.

#### (b) Basis of preparation of the financial statements

##### *Basis of consolidation*

The consolidated financial statements include the financial statements of the Group for the year ended 31 December 2021. A subsidiary is an entity (including a structured entity), directly or indirectly, controlled by the Company. Control is achieved when the Group is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee (i.e., existing rights that give the Group the current ability to direct the relevant activities of the investee).

When the Company has, directly or indirectly, less than a majority of the voting or similar rights of an investee, the Group considers all relevant facts and circumstances in assessing whether it has power over an investee, including:

- (a) the contractual arrangement with the other vote holders of the investee;
- (b) rights arising from other contractual arrangements; and
- (c) the Group's voting rights and potential voting rights.

The financial statements of the subsidiaries are prepared for the same reporting period as the Company, using consistent accounting policies. The results of subsidiaries are consolidated from the date on which the Group obtains control, and continue to be consolidated until the date that such control ceases.

#### (a) 合規聲明(續)

國際會計準則理事會已頒佈將於本集團當前的會計期間首次生效或可供提早採納的若干新訂及經修訂國際財務報告準則。附註3提供有關首次採用該等變動對任何本集團當前及過往會計期間所導致的會計政策變動於本財務報表的反映。

#### (b) 財務報表的編製基礎

##### *合併基準*

合併財務報表包括本集團截至2021年12月31日止年度的財務報表。附屬公司為本公司直接或間接控制的實體(包括結構性實體)。倘本集團自其參與被投資公司的業務而承受可變回報的風險，或享有可變回報的權利，並有能力透過其對被投資公司的權力影響該等回報(即賦予本集團現有能以指導被投資公司的相關業務活動的現有權力)，則取得控制權。

倘本公司直接或間接擁有少於被投資公司大多數投票權或類似權利，則本集團於評估其是否擁有對被投資公司的權力時會考慮以下所有相關事實及情況，包括：

- (a) 與被投資公司其他投票權持有人的合約安排；
- (b) 其他合約安排所產生的權利；及
- (c) 本集團的投票權及潛在投票權。

附屬公司的財務報表乃就與本公司相同的報告期間使用一致的會計政策編製。附屬公司的業績自本集團取得控制權當日合併入帳，並會繼續合併入帳直至該控制權終止當日為止。



## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (b) Basis of preparation of the financial statements (Continued)

##### *Basis of consolidation (Continued)*

Profit or loss and each component of other comprehensive income are attributed to the equity shareholders of the Company and to the non-controlling interests, even if this results in the non-controlling interests having a deficit balance. All intra-group assets and liabilities, equity, income, expenses and cash flows relating to transactions between members of the Group are eliminated in full on consolidation.

The Group reassesses whether or not it controls an investee if facts and circumstances indicate that there are changes to one or more of the three elements of control described above. A change in the ownership interest of a subsidiary, without a loss of control, is accounted for as an equity transaction.

If the Group loses control over a subsidiary, it derecognises (i) the assets (including goodwill) and liabilities of the subsidiary, (ii) the carrying amount of any non-controlling interest and (iii) the cumulative translation differences recorded in equity; and recognises (i) the fair value of the consideration received, (ii) the fair value of any investment retained and (iii) any resulting surplus or deficit in profit or loss. The Group's share of components previously recognised in other comprehensive income is reclassified to profit or loss or retained earnings, as appropriate, on the same basis as would be required if the Group had directly disposed of the related assets or liabilities.

The measurement basis used in the preparation of the financial statements is the historical cost basis except for the financial assets at fair value through other comprehensive income and equity investments.

#### (c) Functional and presentation currency

These financial statements are presented in RMB, rounded to the nearest thousand, which is the functional currency of the Company and its subsidiaries established in the PRC ("PRC Subsidiaries") carrying on the principal activities of the Group. The functional currencies of the Company's subsidiaries in Hong Kong is the Hong Kong dollar ("HKD").

#### (b) 財務報表的編製基礎(續)

##### *合併基準(續)*

損益及其他綜合收益的各組成部分歸屬於本公司權益擁有人及非控股權益，即使其導致非控股權益出現虧絀結餘。所有集團內公司間資產及負債、權益、收入、開支以及與本集團成員公司之間交易有關的現金流量均於合併帳目時悉數抵銷。

倘事實及情況顯示上述三項控制權因素其中一項或多項出現變動，則本集團會重估其是否仍然控制被投資公司。附屬公司擁有權益的變動(並無失去控制權)入賬列作權益交易。

倘本集團喪失附屬公司的控制權，則其終止確認(i)該附屬公司的資產(包括商譽)及負債、(ii)任何非控股權益的賬面價值及(iii)於股權內記錄的累計匯兌差額；並確認(i)已收代價的公允價值、(ii)所保留的任何投資的公允價值及(iii)損益中任何因此產生的盈虧。先前於其他綜合收益確認的本集團應佔部分重新分類至損益或保留盈利(視情況而定)，所採用的基準與本集團直接出售相關資產或負債所規定的基準相同。

編製財務報表所用的計量基準為歷史成本基準，但以公允價值計量且其變動計入其他綜合收益的金融資產和若干股權投資除外。

#### (c) 記賬本位幣及列報貨幣

此等財務報表均以本公司及在中國設立的附屬公司(「中國附屬公司」)開展本集團經營活動所採用的功能貨幣人民幣列示，約至最接近的千位。本公司在香港的各附屬公司的功能貨幣為港元。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (d) Subsidiaries and non-controlling interests

Subsidiaries are entities controlled by the Group. An investment in a subsidiary is consolidated into the consolidated financial statements from the date that control commences until the date that control ceases. Intra-group balances, transactions and cash flows and any unrealised profits arising from intra-group transactions are eliminated in full in preparing the consolidated financial statements. Unrealised losses resulting from intra-group transactions are eliminated in the same way as unrealised gains but only to the extent that there is no evidence of impairment.

Non-controlling interests represent the equity in a subsidiary not attributable directly or indirectly to the Company, and in respect of which the Group has not agreed any additional terms with the holders of those interests which would result in the Group as a whole having a contractual obligation in respect of those interests that meets the definition of a financial liability. For each business combination, the Group can elect to measure any non-controlling interests either at fair value or at the non-controlling interests' proportionate share of the subsidiary's net identifiable assets.

Non-controlling interests are presented in the consolidated statement of financial position within equity, separately from equity attributable to the equity shareholders of the Company. Non-controlling interests in the results of the Group are presented on the face of the consolidated statement of profit or loss and the consolidated statement of profit or loss and other comprehensive income as an allocation of the total profit or loss and total comprehensive income for the year between non-controlling interests and the equity shareholders of the Company. Loans from holders of non-controlling interests and other contractual obligations towards these holders are presented as financial liabilities in the consolidated statement of financial position depending on the nature of the liability.

Changes in the Group's interests in a subsidiary that do not result in a loss of control are accounted for as equity transactions, whereby adjustments are made to the amounts of controlling and non-controlling interests within consolidated equity to reflect the change in relative interests, but no adjustments are made to goodwill and no gain or loss is recognised.

#### (d) 附屬公司及非控股權益

附屬公司是由本集團控制的實體。自控制開始之日起至控制終止之日，將對附屬公司的投資並入合併財務報表中。在編製合併財務報表時，全數抵銷集團內部交易產生的集團內部結餘、交易現金流量以及任何未實現利潤。集團內部交易產生的未實現損失以未實現利潤相同的方式作抵銷，但僅限於沒有減值證據的部份。

非控股權益是指非本公司直接或間接應佔的附屬公司權益，且本集團並無與相關權益持有人另行訂立條款而導致本集團整體須根據其所佔權益承擔符合金融負債定義的合同責任。對於各業務合併而言，本集團可以選擇按公允價值或按本集團佔附屬公司的可識別淨資產的比例而計量任何非控股權益。

非控股權益在合併財務狀況表的權益中列示，惟與本公司權益股東應佔權益分開。非控股權益持有人所佔本集團的業績，會按照該年度的損益總額及其他綜合收益總額在非控股權益持有人與本公司權益股東之間進行分配，並在合併損益表以及合併損益及其他合併綜合收益表呈列。來自非控股權益持有人的借貸及對該等持有人的其他合同責任，會視乎負債的性質於合併財務狀況表中呈列為金融負債。

本集團於附屬公司的權益如發生變動但不會造成喪失控制權，則該變動乃按權益交易的方式入賬，即僅調整在合併權益內的控股及非控股權益金額，以反映其相關權益的變動，但不會調整商譽及不會確認盈虧。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

#### (d) Subsidiaries and non-controlling interests (Continued)

When the Group loses control of a subsidiary, it is accounted for as a disposal of the entire interest in that subsidiary, with a resulting gain or loss being recognised in profit or loss. Any interest retained in that former subsidiary at the date when control is lost is recognised at fair value and this amount is regarded as the fair value on initial recognition of a financial asset (Note 2(n)) or, when appropriate, the cost on initial recognition of an investment in an associate or joint venture.

In the Company's statement of financial position, an investment in a subsidiary is stated at cost less impairment losses (Note 2(m)), unless the investment is classified as held for sale (or included in a disposal group that is classified as held for sale).

#### (e) Associates and joint ventures

An associate is an entity in which the Group or Company has significant influence, but not control or joint control, over its management, including participation in the financial and operating policy decisions.

A joint venture is an arrangement whereby the Group or the Company and other parties contractually agree to share control of the arrangement, and have rights to the net assets of the arrangement, which exists only when decisions about the relevant activities require the unanimous consent of the parties sharing control.

An investment in an associate or a joint venture is accounted for in the consolidated financial statements under the equity method, unless it is classified as held for sale (or included in a disposal group that is classified as held for sale). Adjustments are made to bring into line any dissimilar accounting policy that may exist. Under the equity method, the investment is initially recorded at cost, adjusted for any excess of the Group's share of the acquisition-date fair values of the investee's identifiable net assets over the cost of the investment (if any). Thereafter, the investment is adjusted for the post acquisition change in the Group's share of the investee's net assets and any impairment loss relating to the investment (Note 2(m)). Any acquisition-date excess over cost, the Group's share of the post-acquisition, post-tax results of the investees and any impairment losses for the year are recognised in profit or loss, whereas the Group's share of the post-acquisition post-tax items of the investees' other comprehensive income is recognised in the consolidated other comprehensive income.

### 2. 主要會計政策(續)

#### (d) 附屬公司及非控股權益(續)

在所有其他情況下，當本集團不再控制附屬公司時，按處置有關被投資附屬公司的全部權益列賬，由此產生的收益或虧損在損益中確認。在喪失控制日期所保留有關前附屬公司的權益，以初始確認金融資產時的公允價值或，以初始確認為聯營公司或合營公司時的成本確認(見附註2(n))。

在本公司的財務狀況表中，對附屬公司的投資是按成本減去減值虧損(見附註2(m))後入賬。除非該投資被確認為持有待售(或者包含在一組被歸類為持有待售的處置組中)。

#### (e) 聯營公司及合營企業

聯營公司是指本集團或本公司可以對其管理層發揮重大影響的實體，包括參與其財務及經營決策，但不是控制或聯合控制管理層。

合營企業是一項安排，據此本集團或本公司與其他方協定分享對此項安排的控制權，並享有此項安排的資產淨值，僅在相關活動要求共同享有控制權的各方作出一致同意之決定時存在。

對聯營公司或合營企業的投資是按權益法記入合併財務報表，但被列作持有作出售的投資(或包含在待出售組別)則除外。對可能存在的會計政策的不同進行調整使其一致。根據權益法，對聯營公司或合營企業的投資以成本初始入帳，並就本集團於收購日所佔被投資公司可辨別資產淨值的公允價值超過投資成本的數額(如有)作出調整，然後就本集團所佔被投資公司資產淨值的收購後變動以及與這些投資有關的任何減值虧損作出調整(參閱附註2(m))。於收購日超過成本的任何數額、本集團本年應佔被投資單位的收購後及稅後業績及任何減值虧損會在損益內確認而本集團應佔被投資單位的收購後及稅後其他綜合收益項目會在合併損益及其他綜合收益表確認。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (e) Associates and joint ventures (Continued)

When the Group's share of losses exceeds its interest in the associate or the joint venture, the Group's interest is reduced to nil and recognition of further losses is discontinued except to the extent that the Group has incurred legal or constructive obligations or made payments on behalf of the investee. For this purpose, the Group's interest is the carrying amount of the investment under the equity method together with the Group's long-term interests that in substance form part of the Group's net investment in the associate or the joint venture.

Unrealised profits and losses resulting from transactions between the Group and its associates and joint ventures are eliminated to the extent of the Group's interest in the investee, except where unrealised losses provide evidence of an impairment of the asset transferred, in which case they are recognised immediately in profit or loss. Goodwill arising from the acquisition of associates or joint ventures is included as part of the Group's investments in associates or joint ventures.

If an investment in an associate becomes an investment in a joint venture or vice versa, retained interest is not remeasured. Instead, the investment continues to be accounted for under the equity method.

In all other cases, when the Group ceases to have significant influence over an associate or joint control over a joint venture, it is accounted for as a disposal of the entire interest in that investee, with a resulting gain or loss being recognised in profit or loss. Any interest retained in that former investee at the date when significant influence or joint control is lost is recognised at fair value and this amount is regarded as the fair value on initial recognition of a financial asset (Note 2(n)).

In the Company's statement of financial position, investments in associates and joint ventures are stated at cost less impairment losses (Note 2(m)), unless classified as held for sale (or included in a disposal group that is classified as held for sale).

#### (e) 聯營公司及合營企業(續)

當本集團需分擔聯營公司或合營企業的虧損額超過其所佔權益時，本集團所佔權益應減少至零，並且不再確認額外損失，惟本集團須履行法定或推定責任，或須代表被投資單位作出付款則除外。就此而言，本集團的權益為以權益法核算投資的賬面值及本集團的長期權益，而長期權益實質為本集團對聯營公司或合營企業淨投資的一部分。

本集團與聯營公司和合營企業之間交易所產生的未實現損益均按本集團對被投資單位所佔的權益比率抵銷，惟未實現虧損為已轉讓資產的減值提供證據則除外；如屬這種情況，未實現虧損應立即在損益內確認。收購聯營公司或合營企業所產生的商譽納入本集團於聯營公司或合營公司之投資的一部份。

如果於聯營公司的投資變為於合營企業的投資或於合營企業的投資變為於聯營公司的投資，則毋須重新計量保留權益。有關投資繼續以權益法核算。

在所有其他情況下，當本集團不再對聯營公司有重大影響力或對合營企業實施共同控制時，按出售有關被投資公司的全部權益列賬，由此產生的收益或虧損在損益中確認。在喪失重大影響力或共同控制權日期所保留有關前被投資公司的權益，按公允價值確認，此筆金額在初始確認金融資產時當作公允價值(參閱附註2(n))。

在本公司資產負債表，對聯營公司和合營企業的投資是按成本減去減值損失(參閱附註2(m))後入帳，但被列作持有作出售的投資(或包含在待出售組別)則除外。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (f) Business combination under common control

Business combinations arising from transfer of interests in entities that are under the control of the shareholder who controls the Group are accounted for as if the acquisition had occurred at the beginning of the years or, if later, at the date that common control was established. The assets and liabilities acquired are recognised at the carrying amounts recognised previously in the Company's controlling shareholder's consolidated financial statements.

Upon transfer of interest in an entity to another entity that are under the control of the shareholder who controls the Group, any difference between the Group's interest in the carrying value of the assets and liabilities and the cost of transfer of interest in the entity is recognised directly in equity.

#### (g) Goodwill

Goodwill represents the excess of:

- (i) the aggregate of the fair value of the consideration transferred, the amount of any non-controlling interest in the acquiree and the fair value of the Group's previously held equity interest in the acquiree; over
- (ii) the net fair value of the acquiree's identifiable assets and liabilities measured as at the acquisition date.

When (ii) is greater than (i), then this excess is, after reassessment, recognised immediately in profit or loss as a gain on a bargain purchase.

Goodwill is stated at cost less accumulated impairment losses. Goodwill arising on a business combination is allocated to each cash-generating unit, or groups of cash generating units, that is expected to benefit from the synergies of the combination and is tested annually for impairment (Note 2(m)).

On disposal of a cash-generating unit during the year, any attributable amount of purchased goodwill is included in the calculation of the profit or loss on disposal.

#### (f) 同一控制下的業務合併

本集團的股東控制的企業間權益互換而發生的企業合併是透過假設該收購自財務報告年度開始發生或自同一控制確立當天(如發生時間較後者)。被收購的資產和負債根據本集團股東合併報表已確認的賬面值予以確認。

倘受本集團的股東控制的企業中，有一家把權益轉讓予另一家，本集團應佔資產和負債的賬面值及轉讓權益成本的差異會直接在權益科目核算。

#### (g) 商譽

商譽指：

- (i) 已轉讓代價的公允價值、於被收購公司的任何非控制股東權益的金額，以及本集團之前於被收購公司持有的股權的公允價值的總額；超過
- (ii) 於收購日期計量的被收購公司的可識別淨資產的公允價值。

當(ii)較(i)為大時，該超越值實時在損益內確認為議價收購收益。

商譽按成本減累計減值虧損列賬。業務合併產生之商譽分配至預計將會受惠於合併之協同作用之各現金產生單元或現金產生單元組別，並於每年進行減值測試(見附註2(m))。

在當年內出售現金產生單元，任何可歸屬的購入商譽的金額均應包含在計算出售的損益內。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (h) Property, plant and equipment

Property, plant and equipment (included the right-of-use assets which were presented under property, plant and equipment), other than construction in process, are stated at cost less accumulated depreciation and impairment losses (Note 2(m)).

The cost of self-constructed items of property, plant and equipment includes the cost of materials, direct labour, the initial estimate, where relevant, of the costs of dismantling and removing the items and restoring the site on which they are located and borrowing costs (Note 2(aa)).

Gains or losses arising from the retirement or disposal of an item of property, plant and equipment are determined as the difference between the net disposal proceeds and the carrying amount of the item and are recognised in profit or loss on the date of retirement or disposal.

Expenditure incurred after items of property, plant and equipment have been put into operation, such as repairs and maintenance, is normally charged to profit or loss in the period in which it is incurred. In situations where the recognition criteria are satisfied, the expenditure for a major inspection is capitalised in the carrying amount of the asset as a replacement. Where significant parts of property, plant and equipment are required to be replaced at intervals, the Group recognises such parts as individual assets with specific useful lives and depreciates them accordingly.

Depreciation is calculated to write off the cost of items of property, plant and equipment, less their estimated residual value, if any, using the straight-line method over their estimated useful lives and residual rates as follows:

- Buildings	10 – 45 years	0%
- Structures	20 – 55 years	0%
- General equipment	5 – 20 years	0% – 5%
- Special power equipment	8 – 35 years	0% – 3%
- Technology and environmental protection equipment	5 – 15 years	3% – 5%
- Other industrial equipment	5 – 35 years	0% – 5%

#### (h) 物業、廠房及設備

物業、廠房及設備(包含在物業、廠房及設備中披露的使用權資產)按成本減累計折舊及減值虧損(見附註2(m))列賬。

自建物業、廠房及設備項目成本包括材料成本、直接勞工成本、拆卸及搬遷有關項目的成本與修復項目所在場地的還原修復費用初步估計成本(如有關)以及適當比例的間接生產開支與借貸成本(見附註2(aa))。

報廢或出售物業、廠房及設備項目產生的收益或虧損為出售所得款項淨額與項目賬面值的差額，於報廢或出售日期在損益中確認。

物業、廠房及設備項目投產後所產生的支出，如維修及保養費用，一般於產生期間在損益表中支銷。於符合確認準則的情況下，用於重大檢測的支出將於該資產的賬面價值中撥充資本，列作重置項目。倘物業、廠房及設備的重要部分需不時更換，則本集團會將該等部分確認為擁有特定可使用年期的個別資產，並予以相應折舊。

物業、廠房和設備項目的折舊是在以下淨殘值率及預計可使用期限內以直線法沖銷其成本或估值(已扣除估計殘值(如有))計算：

- 樓宇	10-45年	0%
- 構築物	20-55年	0%
- 通用設備	5-20年	0%-5%
- 電力專用設備	8-35年	0%-3%
- 科技環保專用設備	5-15年	3%-5%
- 其他行業專用設備	5-35年	0%-5%

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (h) Property, plant and equipment (Continued)

Where parts of an item of property, plant and equipment have different useful lives, the cost of the item is allocated on a reasonable basis between the parts and each part is depreciated separately. Both the useful life of an asset and its residual value, if any, are reviewed annually.

For the accounting policy of the right-of-use assets, see Note 2(k) (1).

Construction in progress represents property, plant and equipment under construction and installation, which are stated at cost less any impairment losses, and are not depreciated. Cost comprises the direct costs of construction and capitalised borrowing costs on related borrowed funds during the period of construction. Construction in progress is reclassified to the appropriate category of property, plant and equipment when completed and ready for use.

#### (i) Investment properties

Investment properties are interests in land and/or buildings (including the leasehold property held as a right-of-use asset which would otherwise meet the definition of an investment property) held to earn rental income and/or for capital appreciation. Investment properties are stated at cost less accumulated depreciation and impairment losses (Note 2(m)). The depreciation policy is the same as that of property, plant and equipment (Note 2(h)). Rental income from investment properties is accounted for as described in Note 2(y).

If a property occupied by the Group as property, plant and equipment becomes an investment property, the Group accounts for such property in accordance with the policy stated under "Property, plant and equipment" for owned property up to the date of change in use. The deemed cost of a property for subsequent accounting is its carrying amount at the date of change in use.

#### (h) 物業、廠房及設備(續)

如果物業、廠房和設備項目的組成部分有不同的可使用期限，有關項目的成本會按照合理的基礎分配至各個部分，而且每個部分會分開計提折舊。本集團會每年審閱資產的可使用期限和殘值(如有)。

使用權資產相關會計政策，請見附註2(k)(1)。

在建工程指建築工程尚在進行中的樓宇，並按成本減去任何減值虧損入帳，但不會折舊。成本包括建築期間產生之直接建築成本及相關借款的資本化借款成本。在建工程於工程完成後並準備投入使用时，將重新歸入適當類別之物業、廠房及設備。

#### (i) 投資性物業

投資性物業指為賺取租金收入及/或資本增值目的而持有的土地和/或建築物(包括作為使用權資產持有的租賃物業，否則該資產符合投資物業的定義)的權益。投資物業按成本減去累計折舊和減值損失(參閱附註2(m))後記入合併資產負債表。折舊政策與物業、廠房及設備政策一致(見附註2(h))。投資物業的租金收入是按照附註2(y)所述方式記賬。

如果本集團擁有的物業、廠房及設備變為投資性物業，本集團依據物業、廠房及設備規定的政策對該財產進行會計處理直至變更當天。資產的成本在隨後的核算中為變更當天的賬面價值。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (j) Intangible assets (other than goodwill)

The Group recognises an intangible asset arising from a service concession arrangement when it has a right to charge for usage of the concession infrastructure. An intangible asset received as consideration for providing construction services in a service concession arrangement are measured at fair value upon initial recognition by reference to the fair value of the services provided. Subsequent to initial recognition the intangible asset is measured at cost less accumulated amortisation and impairment losses (Note 2(m)). If the Group is paid for the construction services partly by an intangible asset and partly by a financial asset, then each component of the consideration is accounted for separately and is initially recognised at fair value of the consideration.

Expenditure on research activities is recognised as an expense in the period in which it is incurred. Expenditure on development activities is capitalised if, only if, the Group can demonstrate all of the following: (i) the technical feasibility of completing the intangible asset so that it will be available for use or sale; (ii) its intention to complete the intangible asset and use or sell it; (iii) its ability to use or sell the intangible asset; (iv) how the intangible asset will generate probable future economic benefits. Among other things, the entity can demonstrate the existence of a market for the output of the intangible asset or the intangible asset itself or, if it is to be used internally, the usefulness of the intangible asset; (v) the availability of adequate technical, financial and other resources to complete the development and to use or sell the intangible asset; and (vi) its ability to measure reliably the expenditure attributable to the intangible asset during its development.

The expenditure capitalised includes the costs of materials, direct labour, and an appropriate proportion of overheads and borrowing costs, where applicable (Note 2(aa)). Capitalised development costs are stated at cost less accumulated amortisation and impairment losses (Note 2(m)). Other development expenditure is recognised as an expense in the period in which it is incurred.

#### (j) 無形資產(商譽除外)

如果本集團有權就使用特許權基礎設施收費，本集團會確認服務特許權安排產生的無形資產。作為提供服務特許權安排的代建設服務的代價所收取的無形資產，於初始確認時按公允價值計量。在初始確認後，無形資產按成本減去累計攤銷和減值虧損(附註2(m))計量。如果就建造服務支付予本集團的對價部份為無形資產而部份為金融資產，對價的各部份則應分別入帳並初始按對價的公允價值計量。

研究活動開支於其產生期間確認為開支。只有在本集團能證明所有下列各項的情況下，研發活動的開支才會資本化：(i)完成無形資產以供使用或出售的技術可行性；(ii)完成無形資產並使用或出售的意向；(iii)使用或者出售無形資產的能力；(iv)無形資產如何產生未來可能的經濟效益。除其他外，實體可以證明無形資產或無形資產本身的產出存在一個市場，如果要在內部使用，也可以證明無形資產的有用性；(v)是否有足夠的技術、財政和其他資源來完成開發和使用或出售無形資產；(vi)能夠可靠地計量開發過程中歸屬於無形資產的支出。

資本化的開支包括材料成本、直接勞工成本，以及在適當比例的間接成本及借貸成本(如適用)(附註2(aa))。資本化之開發成本按照成本減累計攤銷及減值虧損(附註2(m))列賬。其他開發支出於其產生期間確認為費用。



# NOTES TO FINANCIAL STATEMENT (CONTINUED)

## 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (j) Intangible assets (other than goodwill) (Continued)

Other intangible assets that are acquired by the Group are stated at cost less accumulated amortisation (where the estimated useful life is finite) and impairment losses (Note 2(m)). Expenditure on internally generated goodwill and brands is recognised as an expense in the period in which it is incurred.

Amortisation of intangible assets with finite useful lives is charged to profit or loss on a straight-line basis over the assets estimated useful lives. The following intangible assets with finite useful lives are amortised from the date they are available for use and their estimated useful lives are as follows:

- Concession assets	20 – 34 years
- Technical know-how	5 – 10 years
- Capitalised development costs	5 – 10 years
- Software and others	3 – 10 years

The estimated useful life of a concession asset in a service concession arrangement is the period from when the Group is able to charge for the use of the infrastructure to the end of the concession period.

Both the period and method of amortisation are reviewed annually.

#### (k) Leases

The Group assesses at contract inception whether a contract is, or contains, a lease. A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration.

##### *Group as a lessee*

The Group applies a single recognition and measurement approach for all leases, except for short-term leases and leases of low-value assets. The Group recognises lease liabilities to make lease payments and right-of-use assets representing the right to use the underlying assets.

#### (j) 無形資產(商譽除外)(續)

本集團收購的其他無形資產以成本減累計攤銷(如果既定的估計可使用期限)和減值虧損(附註2(m))列賬。內部產生的商譽和品牌開支在其產生當期以費用形式確認。

有既定可使用期限的無形資產的攤銷是以直線法於資產的估計可使用期限內計入損益。以下有既定可使用期限的無形資產由可供使用當日起，在估計可使用期限內攤銷：

- 特許權資產	20 – 34年
- 專業技術	5 – 10年
- 資本化開發成本	5 – 10年
- 軟件及其他	3 – 10年

服務特許經營安排中的特許權資產的預計可使用年限於本集團可收取基礎設施使用費開始至特許經營期結束時終止之期間。

攤銷期限及方法均每年進行審閱。

#### (k) 租賃

就本集團在合同開始時評估該合約是否屬於或包含租賃。倘合約為換取代價而給予在一段時間內控制可識別資產使用的權利，則該合約屬於或包含租賃。

##### *集團作為租賃人*

本集團對所有租賃(除短期租賃和低值資產租賃外)採用單一確認及計量方法。本集團確認用於支付租賃付款的租賃負債及使用權資產(指使用相關資產的權利)。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (k) Leases (Continued)

##### Group as a lessee (Continued)

##### (1) Right-of-use assets

The Group recognises right-of-use assets at the commencement date of the lease (i.e., the date the underlying asset is available for use). Right-of-use assets are measured at cost, less any accumulated depreciation and impairment losses, and adjusted for any remeasurement of lease liabilities. The cost of right-of-use assets includes the amount of lease liabilities recognised, initial direct costs incurred and lease payments made at or before the commencement date less any lease incentives received. Unless the Group is reasonably certain to obtain ownership of the leased asset at the end of the lease term, the recognised right-of-use assets are depreciated on a straight-line basis over the shorter of its estimated useful life and the lease term as follows :

Leasehold land	9 – 50 years
Buildings and structures	2 – 6 years
Motor vehicles	2 – 3 years
Other equipment	2 – 4 years

If ownership of the leased asset transfers to the Group by the end of the lease term or the cost reflects the exercise of a purchase option, depreciation is calculated using the estimated useful life of the asset.

#### (k) 租賃(續)

##### 集團作為租賃人(續)

##### (1) 使用權資產

使用權資產於租賃起始之日(即相關資產可供使用之日)確認。使用權資產按成本減任何累計折舊及任何減值虧損計量，並就租賃負債的任何重新計量作出調整。使用權資產成本包括已確認租賃負債、已產生的初始直接成本及於開始日期或之前作出的任何租賃付款扣除任何已收租賃優惠。除非本集團有合理的把握在租賃期末獲得租賃資產的所有權，已確認使用權資產按資產租賃期和預計使用年限兩者中較短者直線折舊：

租賃土地	9 - 50年
樓宇及建築物	2 - 6年
汽車	2 - 3年
其他設備	2 - 4年

倘已租賃資產的所有權於租賃期結束時轉移至本集團或成本反應行使購買選擇權，則使用資產的預計使用年限計算折舊。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (k) Leases (Continued)

##### *Group as a lessee (Continued)*

##### (2) Lease liabilities

Lease liabilities are recognised at the commencement date of the lease at the present value of lease payments to be made over the lease term. The lease payments include fixed payments (including in-substance fixed payments) less any lease incentives receivable, variable lease payments that depend on an index or a rate, and amounts expected to be paid under residual value guarantees. The lease payments also include the exercise price of a purchase option reasonably certain to be exercised by the Group and payments of penalties for termination of a lease, if the lease term reflects the Group exercising the option to terminate the lease. The variable lease payments that do not depend on an index or a rate are recognised as an expense in the period in which the event or condition that triggers the payment occurs.

In calculating the present value of lease payments, the Group uses its incremental borrowing rate at the lease commencement date because the interest rate implicit in the lease is not readily determinable. After the commencement date, the amount of lease liabilities is increased to reflect the accretion of interest and reduced for the lease payments made. In addition, the carrying amount of lease liabilities is remeasured if there is a modification, a change in the lease term, a change in lease payments (e.g., a change to future lease payments resulting from a change in an index or rate) or a change in assessment of an option to purchase the underlying asset.

The Group's lease liabilities are included in lease liabilities and other payables and accruals (current portion).

#### (k) 租賃(續)

##### 集團作為租賃人(續)

##### (2) 租賃負債

租賃負債於租賃開始日以在租賃期內將支付的租賃付款的現值確認。租賃付款包括固定付款(包括實質性的固定付款)減任何應收租賃優惠，取決於指數或利率的可變租賃付款及預根據剩餘價值擔保支付的金額。租賃付款還包括本集團合理確定行使購買選擇權的行權價，及倘租賃條款反應本集團行使終止選擇權，則終止租賃而需支付的罰款。不依賴指數或利率的可變租賃付款在觸發付款的事件或條件發生的期間內確認為費用。

倘租賃隱含的利率難以釐定，則本集團會使用租賃開始日期的增量借貸利率計算租賃付款的現值。於開始日期後，租賃負債數額增長以實現利息增加及減少所支付的租賃付款。此外，倘租期發生修改、變動，租賃付款變動(例如：未來租賃付款的指數或利率出現變動而導致的未來租賃付款變動)或購買有關資產的期權評估變更，將對租賃負債的賬面金額進行重新計量。

本集團的租賃負債包括在租賃負債及其他應付款項中(即期部分)。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (k) Leases (Continued)

##### *Group as a lessee (Continued)*

#### (3) Short-term leases and leases of low-value assets

The Group applies the short-term lease recognition exemption to its short-term leases of buildings and structures, motor vehicles and other equipment (that is those leases that have a lease term of 12 months or less from the commencement date and do not contain a purchase option). It also applies the recognition exemption for leases of low-value assets to leases of office equipment and laptop computers that are considered to be of low value (i.e. below RMB30,000).

Lease payments on short-term leases and leases of low-value assets are recognised as an expense on a straight-line basis over the lease term.

##### *Group as a lessor*

When the Group acts as a lessor, it classifies at lease inception (or when there is a lease modification) each of its leases as either an operating lease or a finance lease.

Leases in which the Group does not transfer substantially all the risks and rewards incidental to ownership of an asset are classified as operating leases. When a contract contains lease and non-lease components, the Group allocates the consideration in the contract to each component on a relative stand-alone selling price basis. Rental income is accounted for on a straight-line basis over the lease terms and is included in revenue and other revenue in the statement of profit or loss due to its operating nature. Initial direct costs incurred in negotiating and arranging an operating lease are added to the carrying amount of the leased asset and recognised over the lease term on the same basis as rental income. Contingent rents are recognised as revenue and other revenue in the period in which they are earned.

Leases that transfer substantially all the risks and rewards incidental to ownership of an underlying asset to the lessee are accounted for as finance leases. At the commencement date, the cost of the leased asset is capitalised at the present value of the lease payments and related payments (including the initial direct costs), and presented as a receivable at an amount equal to the net investment in the lease.

#### (k) 租賃(續)

##### *集團作為租賃人(續)*

#### (3) 短期租賃和低價值資產租賃

集團將短期租賃確認豁免適用於租期為十二個月或少於十二個月且不包含購買選擇權的樓宇及建築物、汽車及其他設備。本條例亦適用具有低值的辦公設備及便攜式計算機低值(低於人民幣30,000元)資產租賃的認可豁免。

短期租賃和低價值資產租賃的租賃付款按直線法被確認為租賃期費用。

##### *集團作為租賃人*

當本集團作為租賃人時，它在租賃開始時(或當存在租賃修改時)將其每項租賃劃分為經營租賃或融資租賃。

本集團未將資產所有權所附帶的所有風險和報酬轉移的租賃被歸類為經營租賃。當合同包含租賃和非租賃部分時，集團將合同中的對價按相對獨立的銷售價格分配給每個部分。租金收入按租賃期限以直線方式入帳，並因其經營性質確認為收入和其他收入。在談判和安排經營租賃過程中產生的初始直接成本，計入租賃資產的賬面價值，並在租賃期內按與租金收入相同的基礎予以確認。或有租金乃於取得租金期間確認為收入和其他收入。

本集團將實質上轉移了與租賃資產所有權有關的幾乎全部風險和報酬的租賃分類為融資租賃。在租賃期開始日，租賃資產的成本按租賃付款和相關付款的現值(包括初始直接成本)資本化，並以等於租賃投資淨額的金額列為應收融資租賃款。

# NOTES TO FINANCIAL STATEMENT (CONTINUED)

## 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (I) Fair value measurement

The Group measures its bills receivable (Note 26) and equity investments (Note 22) at fair value at the end of the current reporting period. Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value measurement is based on the presumption that the transaction to sell the asset or transfer the liability takes place either in the principal market for the asset or liability, or in the absence of a principal market, in the most advantageous market for the asset or liability. The principal or the most advantageous market must be accessible by the Group. The fair value of an asset or a liability is measured using the assumptions that market participants would use when pricing the asset or liability, assuming that market participants act in their economic best interest.

A fair value measurement of a non-financial asset takes into account a market participant's ability to generate economic benefits by using the asset in its highest and best use or by selling it to another market participant that would use the asset in its highest and best use.

The Group uses valuation techniques that are appropriate in the circumstances and for which sufficient data are available to measure fair value, maximising the use of relevant observable inputs and minimising the use of unobservable inputs.

All assets and liabilities for which fair value is measured or disclosed in the financial statements are categorised within the fair value hierarchy, described as follows, based on the lowest level input that is significant to the fair value measurement as a whole:

Level 1 – based on quoted prices (unadjusted) in active markets for identical assets or liabilities

Level 2 – based on valuation techniques for which the lowest level input that is significant to the fair value measurement is observable, either directly or indirectly

Level 3 – based on valuation techniques for which the lowest level input that is significant to the fair value measurement is unobservable

#### (I) 公允價值計量

本集團於本報告期末按公允價值計量若干應收賬款及應收票據(附註26)及股權投資(附註22)。公允價值為於計量日期在市場參與者之間進行的有序交易中，就出售資產收取或轉讓負債支付的價格。公允價值計量乃基於假定出售資產或轉讓負債的交易在該資產或負債的主要市場(或在不存在主要市場的情況下，則在對該資產或負債最有利的市場)進行而作出。該主要或最有利的市場須為本集團可進入的市場。資產或負債的公允價值採用市場參與者為資產或負債定價時所用的假設計量，即假設市場參與者按其最佳經濟利益行事。

非金融資產的公允價值計量須計及市場參與者能自最大限度使用該資產達致最佳用途，或將該資產出售予將最大限度使用該資產達致最佳用途的其他市場參與者，所產生的經濟效益。

本集團採納適用於不同情況且具備充分數據以供計量公允價值的估值方法，以盡量使用相關可觀察輸入數據及盡量減少使用不可觀察輸入數據。

本財務報表中，所有以公允價值計量或披露的資產及負債，已根據對整體公允價值計量而言屬重大的最低層輸入數據，按以下的公允價值等級分類：

第1級 – 基於相同資產或負債於活躍市場的報價(未經調整)

第2級 – 基於對公允價值計量而言屬重大的可觀察(直接或間接)最低層輸入數據的估值方法

第3級 – 基於對公允價值計量而言屬重大的不可觀察最低層輸入數據的估值方法

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (l) Fair value measurement (Continued)

For assets and liabilities that are recognised in the financial statements on a recurring basis, the Group determines whether transfers have occurred between levels in the hierarchy by reassessing categorisation (based on the lowest level input that is significant to the fair value measurement as a whole) at the end of each reporting period.

#### (m) Impairment of non-financial assets

Internal and external sources of information are reviewed at the end of each reporting period to identify indications that the following assets may be impaired or, except in the case of goodwill, an impairment loss previously recognised no longer exists or may have decreased:

- property, plant and equipment;
- investment properties
- right-of-use assets (included under property, plant and equipment)
- intangible assets;
- goodwill; and
- investments in subsidiaries, associates and joint ventures.

If any such indication exists, the asset's recoverable amount is estimated. In addition, for goodwill, the recoverable amount is estimated annually whether or not there is any indication of impairment.

#### • **Calculation of recoverable amount**

The recoverable amount of an asset is the greater of its fair value less costs of disposal and value in use. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset. Where an asset does not generate cash inflows largely independent of those from other assets, the recoverable amount is determined for the smallest group of assets that generates cash inflows independently (i.e. a cash-generating unit).

#### (l) 公允價值計量(續)

就按經常性基準於財務報表確認的資產及負債而言，本集團透過於各報告期末重新評估分類(根據對整體公允價值計量而言屬重大的最低層輸入數據)確定是否發生不同等級轉移。

#### (m) 非金融資產的減值

在各個報告期末對內外部信息來源進行審閱，以識別下列資產可能出現減值的迹象或以前確認的減值損失不再存在或可能已經減少(商譽除外)：

- 物業、廠房及設備；
- 投資性物業；
- 使用權資產(已包含在物業、廠房及設備)；
- 無形資產；
- 商譽；及
- 對附屬公司、聯營公司及合營企業的投資。

如果存在任何有關迹象，則估計該資產的可收回金額。此外，對於商譽，每年估計可收回金額，無論是否存在任何減值迹象。

#### • **可收回金額的計算**

資產的可收回金額是其公允價值減處置費用與使用價值的較大者。在評估使用價值時，預計未來現金流量使用稅前貼現率貼現為其現值，該貼現率反映貨幣時間價值的目前市場評估及該資產的特定風險。如果資產不產生在很大程度上獨立於來自其他資產的現金流入，則就獨立產生現金流入的最小資產組(例如現金產生單位)確定可收回金額。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
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### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (m) Impairment of non-financial assets (Continued)

- **Recognition of impairment losses**

An impairment loss is recognised in profit or loss if the carrying amount of an asset, or the cash-generating unit to which it belongs, exceeds its recoverable amount. Impairment losses recognised in respect of cash-generating units are allocated first to reduce the carrying amount of any goodwill allocated to the cash-generating unit (or group of units) and then, to reduce the carrying amount of the other assets in the unit (or group of units) on a pro rata basis, except that the carrying value of an asset will not be reduced below its individual fair value less costs of disposal (if measurable) or value in use (if determinable).

- **Reversals of impairment losses**

In respect of assets other than goodwill, an impairment loss is reversed if there has been a favourable change in the estimates used to determine the recoverable amount. An impairment loss in respect of goodwill is not reversed.

A reversal of an impairment loss is limited to the asset's carrying amount that would have been determined had no impairment loss been recognised in prior years. Reversals of impairment losses are credited to profit or loss in the year in which the reversals are recognised.

#### (n) Investments and other financial assets

##### **Initial recognition and measurement**

Financial assets are classified, at initial recognition, as subsequently measured at amortised cost, fair value through other comprehensive income, and fair value through profit or loss.

#### (m) 非金融資產的減值(續)

- **減值損失的確認**

如果資產或其所屬的現金產生單位的賬面價值大於可收回金額，則減值損失在損益中確認。就現金產生單位確認的減值損失的分攤，先抵減分攤至該現金產生單位(或單位組)的任何商譽的賬面價值，再按比例抵減該單位(或單位組)中的其他資產的賬面價值，但資產的賬面價值不得抵減到低於其個別公允價值減處置費用(如可計量)或使用價值(如可確定)。

- **減值損失的轉回**

對於除商譽外的資產，如果用於確定可收回金額的估計發生有利變化，則轉回減值損失。商譽減值損失不轉回。

減值損失的轉回限於假定以前年度不確認減值損失的情況下確定的該資產的賬面價值。減值損失轉回在確認轉回的年度記入損益。

#### (n) 投資及其他金融資產

##### **初始確認及計量**

金融資產於初始確認時分類，其後按攤銷成本、按公允價值計入其他綜合收益及按公允價值計入損益計量。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (n) Investments and other financial assets (Continued)

##### *Initial recognition and measurement (Continued)*

The classification of financial assets at initial recognition depends on the financial asset's contractual cash flow characteristics and the Group's business model for managing them. With the exception of trade receivables that do not contain a significant financing component or for which the Group has applied the practical expedient of not adjusting the effect of a significant financing component, the Group initially measures a financial asset at its fair value plus in the case of a financial asset not at fair value through profit or loss, transaction costs. Trade receivables that do not contain a significant financing component or for which the Group has applied the practical expedient are measured at the transaction price determined under IFRS 15 in accordance with the policies set out in Note 2(y).

In order for a financial asset to be classified and measured at amortised cost or fair value through other comprehensive income, it needs to give rise to cash flows that are solely payments of principal and interest ("SPPI") on the principal amount outstanding. Financial assets with cash flows that are not SPPI are classified and measured at fair value through profit or loss, irrespective of the business model.

The Group's business model for managing financial assets refers to how it manages its financial assets in order to generate cash flows. The business model determines whether cash flows will result from collecting contractual cash flows, selling the financial assets, or both. Financial assets classified and measured at amortised cost are held within a business model with the objective to hold financial assets in order to collect contractual cash flows, while financial assets classified and measured at fair value through other comprehensive income are held within a business model with the objective of both holding to collect contractual cash flows and selling, such as bills receivable, which was held to collect the contractual amount upon the maturity or discounted to banks or endorsed to suppliers before maturity. Financial assets which are not held within the aforementioned business models are classified and measured at fair value through profit or loss.

#### (n) 投資及其他金融資產(續)

##### *初始確認及計量(續)*

初始確認時的金融資產分類取決於金融資產的合約現金流量特徵以及本集團管理金融資產的業務模式。除了並不包含重大融資成分或本集團對其採用實際權宜方法不調整重大融資成分影響的應收賬款外，本集團初始按公允價值加上(倘金融資產並非按公允價值計入損益)交易成本計量金融資產。並不包含重大融資成分或本集團對其採用可行權宜方法不調整重大融資成分影響的應收賬款，乃根據國際財務報告準則第15號按下文附註2(y)「收入確認」釐定的交易價格計量。

為使金融資產按攤銷成本或按公允價值計入其他綜合收益進行分類及計量，需就未償還本金產生純粹支付本金及利息的現金流量。現金流量並非純粹支付本金及利息的金融資產，不論其業務模式如何，均按公允價值計入損益分類及計量。

本集團管理金融資產的業務模式指其如何管理其金融資產以產生現金流量。業務模式確定現金流量是否來自收集合約現金流量、出售金融資產，或兩者兼有。按攤銷成本分類和計量的金融資產，於旨在持有金融資產以收取合約現金流量的業務模式中持有。按公允價值分類和計量其他綜合收益的金融資產，為於旨在持有金融資產以收取合約現金流量及出售金融資產的業務模式中持有的金融資產，例如到期時按合同金額收回，或在到期前貼現給銀行，背書給供應商的應收票據。不屬於上述業務模式的金融資產，按公允價值分類和計入損益。



## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
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### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (n) Investments and other financial assets (Continued)

##### *Initial recognition and measurement (Continued)*

All regular way purchases and sales of financial assets are recognised on the trade date, that is, the date that the Group commits to purchase or sell the asset. Regular way purchases or sales are purchases or sales of financial assets that require delivery of assets within the period generally established by regulation or convention in the marketplace.

##### *Subsequent measurement*

The subsequent measurement of financial assets depends on their classification as follows:

##### *Financial assets at amortised cost (debt instruments)*

Financial assets at amortised cost are subsequently measured using the effective interest method and are subject to impairment. Gains and losses are recognised in profit or loss when the asset is derecognised, modified or impaired.

##### *Financial assets at fair value through other comprehensive income (debt instruments)*

For debt instruments at fair value through other comprehensive income, interest income, foreign exchange revaluation and impairment losses or reversals are recognised in profit or loss and computed in the same manner as for financial assets measured at amortised cost. The remaining fair value changes are recognised in other comprehensive income. Upon derecognition, the cumulative fair value change recognised in other comprehensive income is recycled to profit or loss.

##### *Financial assets designated at fair value through other comprehensive income (equity investments)*

Upon initial recognition, the Group can elect to classify irrevocably its equity investments as equity investments designated at fair value through other comprehensive income when they meet the definition of equity under IAS 32 Financial Instruments: Presentation and are not held for trading. The classification is determined on an instrument-by-instrument basis.

#### (n) 投資及其他金融資產(續)

##### *初始確認及計量(續)*

所有以正常方式進行的金融資產買賣於交易日期(即本集團承諾購買或出售該資產的日期)確認。正常方式買賣指按照一般市場規例或慣例訂定的期間內交付資產的金融資產買賣。

##### *後續計量*

金融資產按其分類進行的後續計量如下：

##### *按攤銷成本列賬的金融資產(債務工具)*

按攤銷成本列賬的金融資產使用實際利率法進行後續計量，並可能受減值影響。當資產終止確認、修訂或減值時，收益及虧損於損益中確認。

##### *按公允價值計入其他綜合收益的金融資產(債務工具)*

就按公允價值計入其他綜合收益的債務投資而言，利息收入、外匯重估及減值損失或撥回於損益中確認，並按與按攤銷成本列賬的金融資產相同的方式列賬。其餘公允價值變動於其他綜合收益中確認。終止確認時，於其他綜合收益中確認的累計公允價值變動將重新計損益內。

##### *指定按公允價值計入其他綜合收益的金融資產(股權投資)*

於初始確認時，本集團可選擇於股權投資符合國際會計準則第32號「金融工具：呈報」項下的股權定義且並非持作買賣時，將其股權投資不可撤回地分類為指定按公允價值計入其他綜合收益的股本工具。分類乃按個別工具基準釐定。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
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### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (n) Investments and other financial assets (Continued)

##### **Financial assets designated at fair value through other comprehensive income (equity investments) (Continued)**

Gains and losses on these financial assets are never recycled to profit or loss. Dividends are recognised as other revenue in profit or loss when the right of payment has been established, it is probable that the economic benefits associated with the dividend will flow to the Group and the amount of the dividend can be measured reliably, except when the Group benefits from such proceeds as a recovery of part of the cost of the financial asset, in which case, such gains are recorded in other comprehensive income. Equity investments designated at fair value through other comprehensive income are not subject to impairment assessment.

##### **Financial assets at fair value through profit or loss**

Financial assets at fair value through profit or loss are carried in the statement of financial position at fair value with net changes in fair value recognised in profit or loss.

This category includes derivative instruments and equity investments which the Group had not irrevocably elected to classify at fair value through other comprehensive income. Dividends on equity investments classified as financial assets at fair value through profit or loss are also recognised as other revenue in profit or loss when the right of payment has been established, it is probable that the economic benefits associated with the dividend will flow to the Group and the amount of the dividend can be measured reliably.

#### (n) 投資及其他金融資產(續)

##### **指定按公允價值計入其他綜合收益的金融資產(股權投資)(續)**

該等金融資產的收益及虧損概不會被重新計入損益內。當確立支付權時，股息於損益中確認為其他收入，與股息相關的經濟利益很可能流入本集團，且股息能夠被可靠計量，惟當本集團於作為收回金融資產一部分成本的所得款項中獲益時則除外，於此等情況下，該等收益於其他綜合收益入賬。指定按公允價值計入其他綜合收益的股權投資不受減值評估影響。

##### **公允價值計入損益的金融資產**

按公允價值計入損益的金融資產按公允價值於財務狀況表列賬，而公允價值變動淨額於損益中確認。

此類別包括本集團並無不可撤回地選擇按公允價值計入其他綜合收益進行分類的衍生工具及股權投資。股權投資的股息在支付權確立時分類為按公允價值計入其他損益的金融資產，亦於損益中確認為其他收入，與股息相關的經濟利益很可能流入本集團，且股息能夠被可靠計量。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
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### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (o) Derecognition of financial assets

A financial asset (or, where applicable, a part of a financial asset or part of a group of similar financial assets) is primarily derecognised (i.e., removed from the Group's consolidated statement of financial position) when:

- the rights to receive cash flows from the asset have expired; or
- the Group has transferred its rights to receive cash flows from the asset or has assumed an obligation to pay the received cash flows in full without material delay to a third party under a "pass-through" arrangement; and either (a) the Group has transferred substantially all the risks and rewards of the asset, or (b) the Group has neither transferred nor retained substantially all the risks and rewards of the asset, but has transferred control of the asset.

When the Group has transferred its rights to receive cash flows from an asset or has entered into a pass-through arrangement, it evaluates if, and to what extent, it has retained the risk and rewards of ownership of the asset. When it has neither transferred nor retained substantially all the risks and rewards of the asset nor transferred control of the asset, the Group continues to recognise the transferred asset to the extent of the Group's continuing involvement. In that case, the Group also recognises an associated liability. The transferred asset and the associated liability are measured on a basis that reflects the rights and obligations that the Group has retained.

Continuing involvement that takes the form of a guarantee over the transferred asset is measured at the lower of the original carrying amount of the asset and the maximum amount of consideration that the Group could be required to repay.

#### (p) Impairment of financial assets

The Group recognises an allowance for expected credit losses ("ECLs") for all debt instruments not held at fair value through profit or loss. ECLs are based on the difference between the contractual cash flows due in accordance with the contract and all the cash flows that the Group expects to receive, discounted at an approximation of the original effective interest rate. The expected cash flows will include cash flows from the sale of collateral held or other credit enhancements that are integral to the contractual terms.

#### (o) 終止確認金融資產

金融資產(或，如適用，部分金融資產或一組同類金融資產的一部分)，在下列情況下開始終止確認(即自本集團合併財務狀況表刪除)：

- 從資產收取現金流量的權利屆滿；或
- 本集團已轉讓從資產收取現金流量的權利，或根據「轉手」安排已承擔向第三方全數支付所收取的現金流量而不會重大延誤的責任；及(a)本集團已轉讓資產的絕大部分風險及回報，或(b)本集團並無轉讓或保留資產的絕大部分風險及回報，但已轉讓資產的控制權。

如本集團已轉讓從資產收取現金流量的權利或已訂立轉手安排，則評估是否保留資產所有權的風險及回報及保留程度。如並無轉讓或保留資產的絕大部分風險及回報，亦未轉讓資產的控制權，則本集團繼續按持續涉及的程度確認所轉讓的資產。在該情況下，本集團亦確認相關負債。已轉讓資產及相關負債按反映本集團已保留權利及責任的基準計量。

以擔保方式繼續參與已轉讓資產之程度，乃按資產原有賬面值與本集團可被要求償還的最高代價金額兩者的較低者計量。

#### (p) 金融資產減值

本集團確認對並非按公允價值計入損益的所有債務工具預期信貸損失的撥備。預期信貸損失乃基於根據合約到期的合約現金流量與本集團預期收取的所有現金流量之間的差額而釐定，並以原實際利率的近似值貼現。預期現金流量將包括出售所持抵押的現金流量或組成合約條款的其他信貸提升措施。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (p) Impairment of financial assets (Continued)

##### *General approach*

ECLs are recognised in two stages. For credit exposures for which there has not been a significant increase in credit risk since initial recognition, ECLs are provided for credit losses that result from default events that are possible within the next 12-month (a 12-month ECL). For those credit exposures for which there has been a significant increase in credit risk since initial recognition, a loss allowance is required for credit losses expected over the remaining life of the exposure, irrespective of the timing of the default (a lifetime ECL).

At each reporting date, the Group assesses whether the credit risk on a financial instrument has increased significantly since initial recognition. When making the assessment, the Group compares the risk of a default occurring on the financial instrument as at the reporting date with the risk of a default occurring on the financial instrument as at the date of initial recognition and considers reasonable and supportable information that is available without undue cost or effort, including historical and forward-looking information.

For the financial instruments including deposits and other receivables, bills receivable, trade receivables and contract assets that contain a significant financing component, they are subject to impairment under the general approach and they are classified within the following stages for measurement of ECLs.

Stage 1 – Financial instruments for which credit risk has not increased significantly since initial recognition and for which the loss allowance is measured at an amount equal to 12-month ECLs

Stage 2 – Financial instruments for which credit risk has increased significantly since initial recognition but that are not credit-impaired financial assets and for which the loss allowance is measured at an amount equal to lifetime ECLs

Stage 3 – Financial assets that are credit-impaired at the reporting date (but that are not purchased or originated credit-impaired) and for which the loss allowance is measured at an amount equal to lifetime ECLs

#### (p) 金融資產減值(續)

##### *一般方法*

預期信貸損失分兩個階段進行確認。就自初始確認起未有顯著增加的信貸風險而言，會為未來12個月內可能發生違約事件而導致的信貸損失(12個月預期信貸損失)計提預期信貸損失撥備。就自初始確認起已顯著增加的信貸風險而言，不論何時發生違約，須就於餘下風險年限內的預期信貸損失計提損失撥備(存續期內預期信貸損失)。

本集團於各報告日期評估金融工具的信貸風險是否自初始確認以來顯著增加。在進行該評估時，本集團將於報告日期就金融工具發生之違約風險與初始確認日起金融工具發生之違約風險進行比較，並會考慮無須付出過多成本或努力即可獲得的合理及有佐證的數據(包括過往及前瞻性數據)。

對於包含按金及其他應收款、應收票據、應收賬款及合同資產在內具有重大融資成分的金融工具，均按一般方法進行減值，並於下列各階段內分類，計量預期信貸損失。

第一階段 – 自初始確認以來信貸風險沒有顯著增加及損失撥備以相當於12個月預期信貸損失金額計量的金融工具

第二階段 – 自初始確認以來信貸風險但顯著增加但並非信貸減值的金融資產及其損失撥備以相當於存續期內預期信貸損失金額計量的金融工具

第三階段 – 於報告日期為信貸減值(但並非購買或原始信貸減值)且其損失撥備以相當於存續期內預期信貸損失金額計量的金融資產

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
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### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (p) Impairment of financial assets (Continued)

##### *POCI assets*

Purchased or originated credit impaired (“**POCI**”) assets are financial assets that are credit impaired on initial recognition. POCI assets are recorded at fair value at original recognition and interest income is subsequently recognised based on a credit-adjusted effective interest rate (EIR). The ECL allowance is only recognised or released to the extent that there is a subsequent change in the expected credit losses.

##### *Significant increases in credit risk*

In assessing whether the credit risk of a financial instrument has increased significantly since initial recognition, the Group compares the risk of default occurring on the financial instrument assessed at the reporting date with that assessed at the date of initial recognition. In making this reassessment, the Group considers that a default event occurs when (i) the borrower is unlikely to pay its credit obligations to the Group in full, without recourse by the Group to actions such as realising security (if any is held); or (ii) the financial asset is 90 to 365 days past due depending on the segment that it is related to. The Group considers both quantitative and qualitative information that is reasonable and supportable, including historical experience and forward-looking information that is available without undue cost or effort.

In particular, the following information is taken into account when assessing whether credit risk has increased significantly since initial recognition:

- failure to make payments of principal or interest on their contractually due dates;
- an actual or expected significant deterioration in a financial instrument’s external or internal credit rating (if available);
- an actual or expected significant deterioration in the operating results of the debtor; and
- existing or forecast changes in the technological, market, economic or legal environment that have a significant adverse effect on the debtor’s ability to meet its obligation to the Group.

#### (p) 金融資產減值(續)

##### *初始確認時已減值資產*

初始確認時已減值資產是指在初始確認時信貸受損的金融資產。初始確認時已減值資產初始確認時按公允價值入帳，而利息收入則按經信貸調整的實際利率確認。預期信貸損失只會在信貸風險有所改變的情況下才會被確認或沖回。

##### *信貸風險顯著增加*

在評估金融工具的信貸風險自首次確認以來是否顯著增加時，本集團將在報告日對金融工具的違約風險與首次確認時的違約風險進行比較。在進行重新評估時，本集團認為當：(i) 借款人不太可能向本集團全數支付其信貸債務，而本集團又沒有追索如兌現證券(如持有證券)等行動時；或(ii) 根據其相關分部，該金融資產已逾期90-365天時，便會發生違約事件。本集團認為，定量和定性的信息都是合理和可支持的，包括歷史經驗和前瞻性的信息，這些信息是不需要付出不必要的成本或努力就可以獲得的。

特別是在評估信貸風險自初步確認以來是否大幅增加時，會考慮下列資料：

- 未能在合約到期日支付本金或利息；
- 某一金融工具的外部或內部信貸評級實際或預期的顯著惡化(如有)；
- 債務人實際或預期的經營業績顯著惡化；和
- 技術、市場、經濟或法律環境中現有的或預期的變化對債務人履行其對集團義務的能力產生重大不利影響。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
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### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (p) Impairment of financial assets (Continued)

##### *Significant increases in credit risk (Continued)*

Depending on the nature of the financial instruments, the assessment of a significant increase in credit risk is performed on either an individual basis or a collective basis. When the assessment is performed on a collective basis, the financial instruments are grouped based on shared credit risk characteristics, such as past due status and credit risk ratings.

ECLs are remeasured at each reporting date to reflect changes in the financial instrument's credit risk since initial recognition. Any change in the ECL amount is recognised as an impairment gain or loss in profit or loss. The Group recognises an impairment gain or loss for all financial instruments with a corresponding adjustment to their carrying amount through a loss allowance account.

##### *Simplified approach*

For trade receivables and contract assets that do not contain a significant financing component or when the Group applies the practical expedient of not adjusting the effect of a significant financing component, the Group applies the simplified approach in calculating ECLs. Under the simplified approach, the Group does not track changes in credit risk, but instead recognises a loss allowance based on lifetime ECLs at each reporting date. The Group has established a provision matrix that is based on its historical credit loss experience, adjusted for forward-looking factors specific to the debtors and the economic environment.

#### (q) Financial liabilities

##### *Initial recognition and measurement*

Financial liabilities are classified, at initial recognition, as financial liabilities at fair value through profit or loss, loans and borrowings, other payables.

All financial liabilities are recognised initially at fair value and, in the case of loans and borrowings and other payables, net of directly attributable transaction costs.

The Group's financial liabilities include borrowings, lease liabilities, trade and bills payable, and financial liabilities included in other payables and accruals.

#### (p) 金融資產減值(續)

##### *信貸風險顯著增加(續)*

根據金融工具的性质，對信貸風險顯著增加的評估是在個體或集體基礎上進行的。當在集體基礎上進行評估時，將根據共有的信貸風險特徵(如過去的到期狀態和信貸風險評級)對金融工具進行分組。

預期信貸損失在每個報告日期進行重新計量，以反映自初始確認以來金融工具信貸風險的變化。預期信貸損失額的變動將會計入損益表中的減值收益或損失。本集團通過虧損備抵帳戶確認所有金融工具的減值收益或損失並對其賬面金額作出相應調整。

##### *簡化方法*

就並無重大融資成分或本集團已應用可行權宜方法不調整重要融資成分影響的貿易應收款項而言，本集團採用簡化的方法計算預期信貸損失。根據該簡化方法，本集團並無追溯信貸風險變動，而是於各報告日期就年限內預期信貸損失確認損失撥備。本集團已設立根據其過往信貸損失經驗計算之撥備矩陣，並按債務人之特定前瞻性因素及經濟環境作出調整。

#### (q) 金融負債

##### *初始確認及計量*

金融負債於初始確認時被分類為按公允價值計入損益的金融負債、貸款及借款、其他應付款。

所有金融負債初步按公允價值確認，而如屬貸款及借款以及應付款項，則扣除直接應佔交易成本。

本集團的金融負債包括借款、租賃負債、應付帳款及應付票據、納入其他應付款項的金融負債。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
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### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (q) Financial liabilities (Continued)

##### *Subsequent measurement*

The subsequent measurement of financial liabilities depends on their classification as follows:

##### *Loans and borrowings*

After initial recognition, interest-bearing loans and borrowings are subsequently measured at amortised cost, using the effective interest rate method unless the effect of discounting would be immaterial, in which case they are stated at cost. Gains and losses are recognised in profit or loss when the liabilities are derecognised as well as through the effective interest rate amortisation process.

Amortised cost is calculated by taking into account any discount or premium on acquisition and fees or costs that are an integral part of the effective interest rate. The effective interest rate amortisation is included in finance costs in profit or loss.

##### *Financial guarantee contracts*

Financial guarantee contracts issued by the Group are those contracts that require a payment to be made to reimburse the holder for a loss it incurs because the specified debtor fails to make a payment when due in accordance with the terms of a debt instrument. A financial guarantee contract is recognised initially as a liability at its fair value, adjusted for transaction costs that are directly attributable to the issuance of the guarantee. Subsequent to initial recognition, the Group measures the financial guarantee contracts at the higher of: (i) the ECL allowance determined in accordance with the policy as set out in "Impairment of financial assets"; and (ii) the amount initially recognised less, when appropriate, the cumulative amount of income recognised.

#### (q) 金融負債(續)

##### 後續計量

金融負債按其如下分類進行後續計量：

##### 貸款及借款

於初始確認後，計息貸款及借款採用實際利率法按攤銷成本進行後續計量，惟倘貼現的影響不大，則會按成本列賬。終止確認負債及按實際利率法攤銷過程中產生的損益在損益內確認。

於計算攤銷成本時考慮任何收購折讓或溢價以及作為實際利率一部分的費用或成本。實際利率攤銷於損益內列為融資成本。

##### 財務擔保合同

本集團簽發的財務擔保合同是指規定本集團須就合同持有人因指定債務人到期未能按照債務工具條款進行償付而蒙受的損失向其賠付一筆款項的合同。財務擔保合同初始按公允價值確認為負債，並就直接歸屬於簽發該擔保的交易成本作出調整。初始確認後，本集團按以下兩者中的較高者計量財務擔保合同：(i)根據「金融資產的減值」所載政策釐定的預期信貸損失撥備；及(ii)初始確認金額(於適當情況下扣除確認的累計收入額)。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
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### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (q) Financial liabilities (Continued)

##### *Derecognition of financial liabilities*

A financial liability is derecognised when the obligation under the liability is discharged or cancelled, or expires.

When an existing financial liability is replaced by another from the same lender on substantially different terms, or the terms of an existing liability are substantially modified, such an exchange or modification is treated as a derecognition of the original liability and a recognition of a new liability, and the difference between the respective carrying amounts is recognised in profit or loss.

#### (r) Offsetting of financial instruments

Financial assets and financial liabilities are offset and the net amount is reported in the statement of financial position if there is a currently enforceable legal right to offset the recognised amounts and there is an intention to settle on a net basis, or to realise the assets and settle the liabilities simultaneously.

#### (s) Inventories and other contract costs

##### *(i) Inventories*

Inventories are assets which are held for sale in the ordinary course of business, in the process of production for such sale or in the form of materials or supplies to be consumed in the production process or in the rendering of services.

Inventories are carried at the lower of cost and net realisable value.

Cost is calculated using the weighted average cost formula and comprises all costs of purchase, costs of conversion and other costs incurred in bringing the inventories to their present location and condition.

Net realisable value is the estimated selling price in the ordinary course of business less the estimated costs of completion and the estimated costs necessary to make the sale.

#### (q) 金融負債(續)

##### *終止確認金融負債*

金融負債於其項下責任已解除、註銷或屆滿時終止確認。

當現有金融負債被來自同一放款人的另一項條款迥異的金融負債替換，或現有負債的條款大部分被修訂時，該項替換或修訂會被視作終止確認原有負債及確認新負債，相關各賬面價值之差額於損益內確認。

#### (r) 抵銷金融工具

倘現時存在一項可執行法定權利，可抵銷已確認金額，且擬以淨額結算或同時變現資產及清算債務，則金融資產與金融負債可予抵銷，並以淨額在財務狀況表列示。

#### (s) 存貨和其他合同成本

##### *(i) 存貨*

存貨是指企業在日常活動中持有以備出售的產成品或商品、處在生產過程中的在產品、在生產過程或提供勞務過程中耗用的材料或物料。

存貨乃以成本與可變現淨值之較低者列賬。

成本採用加權平均成本公式計算，並包括所有採購成本、加工成本及將存貨運至目前地點及達成現狀產生之其他成本。

可變現淨值乃以日常業務過程中的估計售價減估計完工成本及估計進行銷售所需的成本後所得數額。



## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
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### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (s) Inventories and other contract costs (Continued)

##### (i) Inventories (Continued)

When inventories are sold, the carrying amount of those inventories is recognised as an expense in the period in which the related revenue is recognised.

The amount of any write-down of inventories to net realisable value and all losses of inventories are recognised as an expense in the period the write-down or loss occurs. The amount of any reversal of any write-down of inventories is recognised as a reduction in the amount of inventories recognised as an expense in the period in which the reversal occurs.

##### (ii) Other contract costs

Capitalised contract costs are stated at cost less accumulated amortisation and impairment losses. Impairment losses are recognised to the extent that the carrying amount of the contract cost asset exceeds the net of (i) the remaining amount of consideration that the Group expects to receive in exchange for the goods or services to which the asset relates, less (ii) any costs that relate directly to providing those goods or services that have not yet been recognised as expenses.

Amortisation of capitalised contract costs is charged to profit or loss when the revenue to which the asset relates is recognised. The accounting policy for revenue recognition is set out in Note 2(y).

#### (t) Contract assets and contract liabilities

A contract asset is recognised when the Group recognises revenue (Note 2(y)) before being unconditionally entitled to the consideration under the payment terms set out in the contract. Contract assets are assessed for expected credit losses (ECL) in accordance with the policy set out in Note 2(p) and are reclassified to receivables when the right to the consideration has become unconditional.

#### (s) 存貨和其他合同成本(續)

##### (i) 存貨(續)

存貨售出時，該等存貨之賬面金額於相關收入獲確認期間內確認為開支。

任何由存貨撇減至可變現淨值之金額及所有存貨虧損，於撇減或虧損出現期間確認為開支。存貨撇減的任何撥回金額，於撥回期間作為存貨所確認的開支的扣減。

##### (ii) 其他合同成本

資本化合同成本按成本減累計攤銷及減值損失列示。當本集團合同成本資產的賬面價值超過(i)本集團預期就資產所關乎的貨品或服務而收取的對價餘額和(ii)與提供尚未確認為費用的商品或服務直接相關的費用的差額時，本集團應確認減值損失。

資本化合同成本的攤銷在確認與資產相關的收入時計入損益。收入確認的會計政策載於附註2(y)。

#### (t) 合同資產和合同負債

在實現合約所載的付款條款無條件享有對價前，本集團將確認的收益計入合同資產(附註2(y))。合同資產根據附註2(p)所載政策評估預期信用損失，並於對價變為無條件時重分類至應收款項。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
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### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (t) Contract assets and contract liabilities (Continued)

A contract liability is recognised when the customer pays non-refundable consideration before the Group recognises the related revenue (Note 2(y)). A contract liability would also be recognised if the Group has an unconditional right to receive non-refundable consideration before the Group recognises the related revenue. In such cases, a corresponding receivable would also be recognised.

For a single contract with the customer, either a net contract asset or a net contract liability is presented. For multiple contracts, contract assets and contract liabilities of unrelated contracts are not presented on a net basis.

When the contract includes a significant financing component, the contract balance includes interest accrued under the effective interest method (Note 2(y)).

#### (u) Cash and cash equivalents

Cash and cash equivalents comprise cash at banks and on hand, demand deposits with banks and other financial institutions, and short-term, highly liquid investments that are readily convertible into known amounts of cash and which are subject to an insignificant risk of changes in value. Cash and cash equivalents are not restricted as to use.

#### (v) Employee benefits

##### (i) Short-term employee benefits and contributions to defined contribution retirement plans

Salaries, annual bonuses, paid annual leave, contributions to defined contribution retirement plans and the cost of non-monetary benefits are accrued in the year in which the associated services are rendered by employees. Where payment or settlement is deferred and the effect would be material, these amounts are stated at their present values.

A defined contribution plan is a post-employment benefit plan under which an entity pays fixed contributions into a separate entity and will have no legal or constructive obligation to pay further amounts. Obligations for the statutory defined contribution pension plans are recognised as an expense in profit or loss when they are due.

#### (t) 合同資產和合同負債(續)

當客戶在本集團確認相關收入(附註2(y))前支付不可退還的對價時，集團確認合同負債。如果本集團在確認相關收入前擁有無條件接收不可退還對價的權利，也將確認合同負債。在這種情況下，本集團也將確認相應的應收款項。

對於與客戶的單一履約合同，應列示為淨合同資產或淨合同負債。對於多份合同，合同資產和無關合同的合同負債不得以淨額列報。

當合同包含重大融資成分時，合同餘額包括按實際利率法計算的利息(附註2(y))。

#### (u) 現金及現金等價物

現金及現金等價物包括貨幣資金、現金、在銀行及其他金融機構的活期存款、以及高流動性短期投資，這種投資可隨時轉換為已知金額的現金，承受的價值變動風險不重大。現金及現金等價物的用途不受限制。

#### (v) 僱員福利

##### (i) 短期僱員福利及界定供款退休計劃供款

薪金、年度花紅、界定供款退休計劃作出供款及非貨幣性福利之成本乃於僱員提供有關服務年度內計提。倘延遲付款或結算而且其影響重大，則該等金額按現值列賬。

設定提存計劃是一種離職後福利計劃，根據該計劃，一家實體向一家獨立實體支付固定金額的繳費金額，沒有支付更多金額的法律或推定義務。法定設定提存養老金計劃的繳費義務在其到期時在損益中確認為支出。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (w) Income tax

Income tax for the year comprises current tax and movements in deferred tax assets and liabilities. Current tax and movements in deferred tax assets and liabilities are recognised in profit or loss except to the extent that they relate to items recognised in other comprehensive income or directly in equity, in which case the relevant amounts of tax are recognised in other comprehensive income or directly in equity, respectively.

Current tax is the expected tax payable on the taxable income for the year, using tax rates enacted or substantively enacted at the end of the reporting period, and any adjustment to tax payable in respect of previous years.

Deferred tax assets and liabilities arise from deductible and taxable temporary differences respectively, being the differences between the carrying amounts of assets and liabilities for financial reporting purposes and their tax bases. Deferred tax assets also arise from unused tax losses and unused tax credits.

Apart from certain limited exceptions, all deferred tax liabilities, and all deferred tax assets to the extent that it is probable that future taxable profits will be available against which the asset can be utilised, are recognised. Future taxable profits that may support the recognition of deferred tax assets arising from deductible temporary differences include those that will arise from the reversal of existing taxable temporary differences, provided those differences relate to the same taxation authority and the same taxable entity, and are expected to reverse either in the same period as the expected reversal of the deductible temporary difference or in periods into which a tax loss arising from the deferred tax asset can be carried back or forward. The same criteria are adopted when determining whether existing taxable temporary differences support the recognition of deferred tax assets arising from unused tax losses and credits, that is, those differences are taken into account if they relate to the same taxation authority and the same taxable entity, and are expected to reverse in a period, or periods, in which the tax loss or credit can be utilised.

#### (w) 所得稅

本年度之所得稅包括即期稅項，以及遞延稅項資產及負債之變動。即期稅項及遞延稅項資產及負債之變動於損益中確認，惟倘涉及業務合併，或於其他綜合收益或直接於權益確認之項目除外，在此情況下，相關稅項金額分別於其他綜合收益或直接於權益確認。

當期稅項是根據年內應稅所得額，按報告期末已執行或實際已執行之稅率計算之預期應付稅項，以及過往年度的應付稅項的任何調整。

遞延所得稅資產與負債分別由可抵扣和應納稅暫時性差異產生。暫時性差異是指資產和負債在財務報表上的賬面金額與該等資產和負債的計稅基礎之間的差異。遞延稅項資產也可以由未使用稅項虧損和未使用稅項抵免產生。

除若干有限之例外情況外，所有遞延稅項負債及所有遞延稅項資產(惟以有可能用以抵扣未來很可能取得之應課稅利潤的部份為限)均予以確認。可支持確認可抵扣暫時性差異所產生遞延稅項資產的未來應課稅利潤包括轉回現有應納稅暫時性差異所產生的金額。為該等差異必須與同一稅務機關及同一課稅實體有關，並預期在預計轉回可抵扣暫時性差異之同一期間或遞延稅項資產所產生稅務虧損可予撥回或結轉之期間內轉回。在決定現有應納稅暫時性差異是否足以支持確認由未使用稅項虧損及稅項抵免所產生遞延稅項資產時，亦會採用同一準則，即須計及與同一稅務機關及同一應課稅實體有關，並預期在能夠運用稅項虧損或稅項抵免之間內轉回之該等差異。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (w) Income tax (Continued)

The limited exceptions to recognition of deferred tax assets and liabilities are those temporary differences arising from goodwill not deductible for tax purposes, the initial recognition of assets or liabilities that affect neither accounting nor taxable profit (provided they are not part of a business combination), and temporary differences relating to investments in subsidiaries and associates to the extent that, in the case of taxable differences, the Group controls the timing of the reversal and it is probable that the differences will not reverse in the foreseeable future, or in the case of deductible differences, unless it is probable that they will reverse in the future.

The amount of deferred tax recognised is measured based on the expected manner of realisation or settlement of the carrying amount of the assets and liabilities, using tax rates enacted or substantively enacted at the end of the reporting period. Deferred tax assets and liabilities are not discounted.

The carrying amount of a deferred tax asset is reviewed at the end of each reporting period and is reduced to the extent that it is no longer probable that sufficient taxable profits will be available to allow the related tax benefit to be utilised. Any such reduction is reversed to the extent that it becomes probable that sufficient taxable profits will be available.

Additional income taxes that arise from the distribution of dividends are recognised when the liability to pay the related dividends is recognised.

Current tax balances and deferred tax balances, and movements therein, are presented separately from each other and are not offset. Current tax assets are offset against current tax liabilities, and deferred tax assets against deferred tax liabilities, if the Company or the Group has the legally enforceable right to set off current tax assets against current tax liabilities and the following additional conditions are met:

#### (w) 所得稅(續)

確認遞延稅項資產及負債之有限例外情況包括來自不可在稅務方面獲得扣減的商譽、不影響會計或應課稅利潤(如屬業務合併的一部份則除外)的資產或負債之初始確認，以及與對附屬公司和聯營公司投資有關之暫時性差異，如為應納稅差異，只限於本集團可以控制轉回時間而不太可能在可預見將來轉回之差額；或如屬可抵扣差異，則只限於可在將來轉回的差異。

已確認遞延稅額是按照資產與負債賬面金額的預期實現或結算方式，根據已執行或在報告期末實質上已執行的稅率計量。遞延稅項資產與負債均不折現計算。

遞延稅項資產之賬面值會於每個報告期末予以審閱，並減少不再可能有足夠之應課稅利潤以抵扣相關可使用的稅項利益之部份。如日後有可能有足夠之應課稅利潤，該減少金額將被撥回。

當確認須派付股息之責任時，會確認分派有關股息所產生的額外所得稅。

即期稅項結餘及遞延稅項結餘以及當中之變動乃各自分開呈列及不予抵銷。倘本公司或本集團擁有以即期稅項資產抵銷即期稅項負債之法律上可執行之權利，以及符合以下之額外條件時，即期稅項資產才會與即期稅項負債抵銷，而遞延稅項資產則與遞延稅項負債抵銷：

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
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### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (w) Income tax (Continued)

- in the case of current tax assets and liabilities, the Company or the Group intends either to settle on a net basis, or to realise the asset and settle the liability simultaneously; or
- in the case of deferred tax assets and liabilities, if they relate to income taxes levied by the same taxation authority on either:
  - the same taxable entity; or
  - different taxable entities which with the significant amounts of deferred tax liabilities or assets expected to be settled or recovered in each future period, intend to realise the current tax assets and settle the current tax liabilities on a net basis or realise and settle simultaneously.

#### (x) Provisions and contingent liabilities

##### (i) Provisions and contingent liabilities

Provisions are recognised when the Group has a legal or constructive obligation arising as a result of a past event, it is probable that an outflow of economic benefits will be required to settle the obligation and a reliable estimate can be made. Where the time value of money is material, provisions are stated at the present value of the expenditure expected to settle the obligation.

Where it is not probable that an outflow of economic benefits will be required, or the amount cannot be estimated reliably, the obligation is disclosed as a contingent liability, unless the probability of outflow of economic benefits is remote. Possible obligations, whose existence will only be confirmed by the occurrence or non-occurrence of one or more future events are also disclosed as contingent liabilities unless the probability of outflow of economic benefits is remote.

#### (w) 所得稅(續)

- 就即期稅項資產及負債而言，本公司或本集團計劃以淨額方式結算，或同時變現資產及償還負債；或
- 就遞延稅項資產及負債而言，如該資產及負債涉及之所得稅乃由同一個稅務機關向以下各方徵收：
  - 同一應課稅實體；或
  - 不同應課稅實體。該等實體計劃在日後每個預期有大額遞延稅項負債需要清算或大額遞延稅項資產可以收回的期間內，按淨額為基礎實現當期稅項資產和清算當期稅項負債，或同時變現該資產和清算該負債。

#### (x) 撥備及或有負債

##### (i) 撥備與或有負債

如果本集團須就已發生事件承擔法律或推定責任，而履行該責任很可能會導致經濟利益外流，並可作出可靠估計，便會確認撥備。如果貨幣時間價值重大，則按預計履行責任所需開支之現值計提撥備。

倘若致使經濟利益外流之機會不大，或無法對有關款項作出可靠估計，便會將該責任披露為或有負債，惟經濟利益外流之機會極低則除外。如果本集團的義務僅視乎一宗或多宗未來事件是否發生才能確定存在，該義務亦會披露為或有負債，惟經濟利益外流之機會極低則除外。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
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### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (x) Provisions and contingent liabilities (Continued)

##### (ii) Onerous contracts

An onerous contract exists when the Group has a contract under which the unavoidable costs of meeting the obligations under the contract exceed the economic benefits expected to be received from the contract. Provisions for onerous contracts are measured at the present value of the lower of the expected cost of terminating the contract and the net cost of continuing with the contract.

#### (y) Revenue recognition

##### Revenue from contracts with customers

Revenue from contracts with customers is recognised when control of goods or services is transferred to the customers at an amount that reflects the consideration to which the Group expects to be entitled in exchange for those goods or services.

When the consideration in a contract includes a variable amount, the amount of consideration is estimated to which the Group will be entitled in exchange for transferring the goods or services to the customer. The variable consideration is estimated at contract inception and constrained until it is highly probable that a significant revenue reversal in the amount of cumulative revenue recognised will not occur when the associated uncertainty with the variable consideration is subsequently resolved.

When the contract contains a financing component which provides the customer with a significant benefit of financing the transfer of goods or services to the customer for more than one year, revenue is measured at the present value of the amount receivable, discounted using the discount rate that would be reflected in a separate financing transaction between the Group and the customer at contract inception. When the contract contains a financing component which provides the Group with a significant financial benefit for more than one year, revenue recognised under the contract includes the interest expense accreted on the contract liability under the effective interest method. For a contract where the period between the payment by the customer and the transfer of the promised goods or services is one year or less, the transaction price is not adjusted for the effects of a significant financing component, using the practical expedient in IFRS 15.

#### (x) 撥備及或有負債(續)

##### (ii) 預計虧損合同

當集團在履行合約義務時所產生的不可避免的成本超過了預期從合同中獲取的經濟利益，該合同被稱之為預計虧損合同。預計合同虧損以終止合同的預期成本和繼續履約所發生成本兩者中較低者的現值計量。

#### (y) 收入確認

##### 客戶合約收入

當商品或服務的控制權轉移至客戶時本集團即確認客戶合約收入，確認金額為本集團就該等商品或服務而預期有權換取的對價。

若合約中的對價包含可變金額，本集團就轉移予客戶的該等商品或服務而有權換取的對價金額進行估計。可變對價在合約開始時進行估計並受到約束，直至可變對價相關的不確定性隨後得到解決，累計已確認收入不大可能發生重大收入撥回。

倘合約包含融資部分，就向客戶轉移商品或服務而為其提供重大融資利益超過一年，則收入按本集團與客戶在合約開始時進行的個別融資交易所反映的貼現率貼現的應收款項現值計量。倘合約包含融資部分，為本集團提供重大融資利益超過一年，則根據該合約確認的收入包括按實際利率法計算合約責任產生之利息開支。對於客戶付款至轉移所承諾商品或服務期間為一年或不足一年的合約，不會使用國際財務報告準則第15號的可行權宜方法就重大融資成分的影響對交易價格進行調整。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
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### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (y) Revenue recognition (Continued)

##### (i) Sale of industrial products

Revenue is recognised when the customer takes possession of and accepts the products. If the products are a partial fulfilment of a contract covering other goods and/or services, then the amount of revenue recognised is an appropriate proportion of the total transaction price under the contract, allocated between all the goods and services promised under the contract on a relative stand-alone selling price basis.

##### (ii) Construction contracts

A contract with a customer is classified by the Group as a construction contract when the contract relates to work on an asset under the control of the customer and therefore the Group's construction activities create or enhance an asset under the customer's control.

When the outcome of a construction contract can be reasonably measured, revenue from the contract is recognised progressively over time using the cost-to-cost method, i.e. based on the proportion of the actual costs incurred relative to the estimated total costs.

The likelihood of the Group earning contractual bonuses for early completion or suffering contractual penalties for late completion is taken into account in making these estimates, such that revenue is only recognised to the extent that it is highly probable that a significant reversal in the amount of cumulative revenue recognised will not occur.

When the outcome of the contract cannot be reasonably measured, revenue is recognised only to the extent of contract costs incurred that are expected to be recovered.

If at any time the costs to complete the contract are estimated to exceed the remaining amount of the consideration under the contract, then a provision is recognised in accordance with the policy set out in Note 2(x) (ii).

#### (y) 收入確認(續)

##### (i) 銷售商品

商品銷售收入是在客戶佔有並接收商品時予以確認。如果提供的商品只是履行部分合同，則應按合同下交易總價的適當比例確認收入金額，在相對獨立的銷售價格基礎上於合同承諾的所有商品和服務之間分配。

##### (ii) 建造合同

當合同涉及客戶控制下的工作時，本集團將與客戶的合同劃分為建造合同。本集團的建造活動在客戶的控制下創建或新增資產。

當建造合同的成果可以被合理計量時，收入隨著時間的推移按照成本比例法逐漸確認，即基於實際發生的成本和預算總成本的比例進行計算。

在作出這些估計時，考慮到本集團因提前完成而獲得合同紅利或因延遲完成而遭受合同罰金的可能性，因此只有在很可能不會發生已確認累積收入金額的重大逆轉的情況下才確認收入。

當合同結果無法合理計量時，收入僅在預期可收回的合同成本範圍內確認。

如果在任何時候，完成合同的成本估計超過了合同下對價的剩餘金額，則根據附註2(x)(ii)中規定的政策確認準備金。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
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### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (y) Revenue recognition (Continued)

##### (iii) Service concession revenue

Revenue related to construction services under a service concession arrangement is recognised based on the stage of completion of the work performed consistent with the Group's accounting policy on recognising revenue on construction contracts (Note 2(y) (ii)). Operation or service revenue is recognised in the period in which the services are provided by the Group. Interest income on financial assets is recognised in accordance with policy for interest income below. When the Group provides more than one service in a service concession arrangement, the consideration received is allocated by reference to the relative stand-alone selling prices of the services delivered when the amounts are separately identifiable.

##### (iv) Rendering of service

Revenue from the provision of service, such as operation and maintenance service, is recognised over the scheduled period on a straight-line basis because the customer simultaneously receives and consumes the benefits provided by the Group.

##### Rental income from operating leases

Rental income receivable under operating leases is recognised in profit or loss in equal instalments over the periods covered by the lease term, except where an alternative basis is more representative of the pattern of benefits to be derived from the use of the leased asset. Lease incentives granted are recognised in profit or loss as an integral part of the aggregate net lease payments receivable. Contingent rentals are recognised as income in the accounting period in which they are earned.

#### (y) 收入確認(續)

##### (iii) 服務特許權收入

服務特許權協議項下的與施工相關的收入，按照本集團確認建造合同收入相一致的會計政策(附註2(y)(ii))按工程完工進度確認。營運或服務收入在本集團提供服務的期間內確認。金融資產的利息收入按照下述利息收入的規定確認。當本集團在服務特許權協議提供的服務多於一項，且服務確認收入的公允價值能分別確定時，則參照所提供服務的相對獨立的銷售價格對收取的對價進行分配。

##### (iv) 提供服務收入

提供服務的收入，比如運維服務是在計劃期間內按照直線法確認的，因為客戶是同時接受並消耗集團提供的福利。

##### 經營租賃的租金收入

根據經營租賃應收的租金收入在租賃期限涵蓋的期間按等額分期付款在損益中確認，除非其他基準更能代表從使用租入資產中獲得的利益的特徵。給予的租金優惠作為合計租賃付款應收賬款淨額的不可分割部分，在損益中確認。或有租賃款在其產生的會計期間確認為收入。



## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (y) Revenue recognition (Continued)

##### *Other revenue*

Interest income is recognised as it accrues under the effective interest method using the rate that exactly discounts estimated future cash receipts through the expected life of the financial asset to the gross carrying amount of the financial asset. For financial assets measured at amortised cost or FVOCI (recycling) that are not credit-impaired, the effective interest rate is applied to the gross carrying amount of the asset. For credit-impaired financial assets, the effective interest rate is applied to the amortised cost (i.e. gross carrying amount net of loss allowance) of the asset (Note 2(p)).

For POCI financial assets, interest income is recognised by calculating the credit-adjusted EIR and applying that rate to the amortised cost of the financial assets.

Dividend income from unlisted investments is recognised when the shareholders' right to receive payment is established. Dividend income from listed investments is recognised when the share price of the investment goes ex-dividend.

Government grants are recognised in the consolidated statement of financial position initially when there is reasonable assurance that they will be received and that the Group will comply with the conditions attaching to them. Grants that compensate the Group for expenses incurred are recognised as income in profit or loss on a systematic basis in the same periods in which the expenses are incurred. Grants that compensate the Group for the cost of an asset are initially recognised as deferred income and are subsequently recognised in profit or loss over the useful life of the asset.

#### (z) Translation of foreign currencies

Foreign currency transactions during the year are translated at the foreign exchange rates ruling at the transaction dates. Monetary assets and liabilities denominated in foreign currencies are translated at the foreign exchange rates ruling at the end of the reporting period. Exchange gains and losses are recognised in profit or loss.

Non-monetary assets and liabilities that are measured in terms of historical cost in a foreign currency are translated using the foreign exchange rates ruling at the transaction dates.

#### (y) 收入確認(續)

##### *其他收入*

利息收入按實際利率法下的累計額確認，實際利率是將金融資產預期壽命內的預計未來現金收入精確地折現為金融資產的總賬面金額。對於以攤餘成本或以公允價值計量且其變動計入其他綜合收益(重新計入)計量且未發生信用損失的金融資產，實際利率適用於該資產的總賬面金額。對於信用受損的金融資產，實際利率適用於該資產的攤餘成本(即總賬面金額減去損失準備金)(附註2(p))。

對於初始確認時已減值資產，利息收入的確認是通過計算信用調整的有效利率並且使用該利率去計算金融資產的攤銷成本。

非上市權益投資的股息收入在股東收取款項的權利確立時確認。上市股權投資的股息收入在投資項目的股價除息時確認。

當本集團可以合理確認將會收到政府補助並符合相關附帶條件時，政府補助初始會在合併財務狀況表內確認。用作補償本集團開支的補助於開支產生的同一期間以有系統的基準在損益內確認為收入。用作補償本集團資產成本的補助，初步確認為遞延收入，並隨後於資產的使用年限內於損益中確認。

#### (z) 外幣換算

年內的外幣交易按交易日的幣匯率換算。以外幣計價的貨幣資產與負債則按報告期末的幣匯率換算。匯兌損益在損益內確認。

以外幣計值並按歷史成本計量的非貨幣資產及負債以交易日期的匯率換算。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (z) Translation of foreign currencies (Continued)

The results of foreign operations are translated into RMB at the exchange rates approximating the foreign exchange rates ruling at the dates of the transactions. Statement of financial position items are translated into RMB at the closing foreign exchange rates at the end of the reporting period. Statement of profit or loss and statement of cash flows items are translated into RMB at the average foreign exchange rates for the reporting period. The resulting exchange differences are recognised in other comprehensive income and accumulated separately in equity in the exchange reserve.

On disposal of a foreign operation, the cumulative amount of the exchange differences relating to that foreign operation is reclassified from equity to profit or loss when the profit or loss on disposal is recognised.

#### (aa) Borrowing costs

Borrowing costs that are directly attributable to the acquisition, construction or production of an asset which necessarily takes a substantial period of time to get ready for its intended use or sale are capitalised as part of the cost of that asset. Other borrowing costs are expensed in the period in which they are incurred.

The capitalisation of borrowing costs as part of the cost of a qualifying asset commences when expenditure for the asset is being incurred, borrowing costs are being incurred and activities that are necessary to prepare the asset for its intended use or sale are in progress. Capitalisation of borrowing costs is suspended or ceases when substantially all the activities necessary to prepare the qualifying asset for its intended use or sale are interrupted or complete.

#### (z) 外幣換算(續)

外貨幣業務業績按與於交易日適用的外幣匯率相近的匯率換算成人民幣。財務狀況表項目乃按於報告期末的收市外幣匯率換算為人民幣。損益表和現金流量表中項目按報告期的平均外幣匯率換算為人民幣。所產生的匯兌差額乃於其他綜合收益內確認，並單獨累計在權益的匯兌儲備內。

在處置海外業務時，與該海外經營有關的匯兌差異累計金額在確認處置損益時，將從權益被重分類至當期損益。

#### (aa) 借貸成本

與購置、建造或生產需要長時間才可以達到擬定可使用或可出售狀態的資產直接相關的借款費用資本化，作為資產的部份成本。其他借款費用於產生期間列為開支。

借款費用應在資產開支和借款費用產生時，並且在資產達到擬定可使用或可出售狀態所必須的準備工作進行期間開始予以資本化，以作為合格資產的成本的一部份，在使合格資產達到擬定可使用或可出售狀態所必須的幾乎全部準備工作中斷或完成時，即暫時中止或停止將借款費用資本化。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (ab) Share award scheme

The Group operates several share award schemes for the purpose of providing incentives and rewards to eligible participants who contribute to the success of the Group's operations. Employees (including directors) of the Group receive remuneration in the form of share award schemes, whereby employees render services as consideration for equity instruments ("equity-settled transactions").

The cost of equity-settled transactions with employees for grants are measured by reference to the fair value at the date at which they are granted. The fair value are determined by the market price of the listed shares or the external valuer using discounted cash flow model, further details of which are given in note 39 to the financial statements, and the difference between the grant price of awarded shares and the fair value of the awarded shares needs to be amortized within the restricted period.

#### (ac) Related parties

- (1) A person, or a close member of that person's family, is related to the Group if that person:
- (a) has control or joint control over the Group;
  - (b) has significant influence over the Group; or
  - (c) is a member of the key management personnel of the Group or of a parent of the Group.

#### (ab) 股權激勵計劃

本集團實施了多項股權激勵計劃，旨在獎勵和激勵為集團運營做出貢獻的參與者。本集團員工(包括董事)提供服務並以股權激勵計劃的形式獲得薪酬(「權益結算股份支付」)。

授予職工的以權益結算的股份支付成本按照授予日的公允價值來計量。公允價值由上市股票的市場價格或外部估價師使用貼現現金流模型確定，具體詳情請見財務報表附註39，授予股份的授予價格與授予股份的公允價值之間的差額需要在限制期內攤銷。

#### (ac) 關聯方

- (1) 某一個人或與該個人關係密切的家庭成員應被視為與本集團有關聯，如果該個人：
- (a) 控制或共同控制本集團；
  - (b) 對本集團具有重大影響；或
  - (c) 作為本集團或本集團母公司關鍵管理人員。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (ac) Related parties (Continued)

- (2) An entity is related to the Group if any of the following conditions applies:
- (a) The entity and the Group are members of the same group (which means that each parent, subsidiary and fellow subsidiary is related to the others).
  - (b) One entity is an associate or joint venture of the other entity (or an associate or joint venture of a member of a group of which the other entity is a member).
  - (c) Both entities are joint ventures of the same third party.
  - (d) One entity is a joint venture of a third entity and the other entity is an associate of the third entity.
  - (e) The entity is a post-employment benefit plan for the benefit of employees of either the Group or an entity related to the Group.
  - (f) The entity is controlled or jointly controlled by a person identified in (1).
  - (g) A person identified in (1) (a) has significant influence over the entity or is a member of the key management personnel of the entity (or of a parent of the entity).

#### (ac) 關聯方(續)

- (2) 在滿足任何以下條件的情況下，某一實體應被視為與本集團有關聯的實體：
- (a) 該實體和本集團均屬於同一集團的成員(即各母公司、附屬公司和同系附屬公司彼此相互關聯)。
  - (b) 一間實體是另間實體的聯營公司或合營企業(或另一實體為成員公司之集團旗下成員公司之聯營公司或合營企業)。
  - (c) 兩間實體均為同一第三方的合營企業。
  - (d) 一間實體為第三方實體的合營企業，另一實體為該第三方實體的聯營公司。
  - (e) 該實體為本集團或與本集團有關連的實體就僱員福利而設的離職後福利計劃。
  - (f) 由(1)所述的個人控制或共同控制的實體。
  - (g) 受上述(1)(a)中定義的個人重大影響的實體或該個人為實體(或該實體的母公司)的關聯管理人員。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (ac) Related parties (Continued)

(2) (Continued)

- (h) The entity, or any member of a group of which it is a part, provides key management personnel services to the Group or to the Group's parent.

Close members of the family of a person are those family members who may be expected to influence, or be influenced by, that person in their dealings with the entity.

#### (ad) Segment reporting

Operating segments, and the amounts of each segment item reported in the financial statements, are identified from the financial information provided regularly to the Group's most senior executive management for the purposes of allocating resources to, and assessing the performance of, the Group's various lines of business and geographical locations.

Individually material operating segments are not aggregated for financial reporting purposes unless the segments have similar economic characteristics and are similar in respect of the nature of products and services, the nature of production processes, the type or class of customers, the methods used to distribute the products or provide the services, and the nature of the regulatory environment. Operating segments which are not individually material may be aggregated if they share a majority of these criteria.

#### (ac) 關聯方(續)

(2) (續)

- (h) 該實體或其所屬集團的任何成員公司，向本集團或本集團母公司提供關鍵管理人員服務。

與個關係密切的家庭成員是指預期該等在與實體的交易中，可能會影響該名個人或受其影響的家屬。

#### (ad) 分部報告

本集團為了分配資源予本集團各項業務以及評估各項業務的業績，而定期向本集團最高級行政管理層提供的財務數據。從該等資料中，可找出在財務報表中報告的經營分部、不同地區和每一分部、地區項目的金額。

個別而言屬於重大的經營分部不會在財務報告中予以匯總，除非該等分部擁有相若的經濟特性，而且其產品及服務的性質、生產流程性質、客戶的類型或類別、用以分銷產品或提供服務的方法以及監管環境的性質均相若。如果個別而言並非屬於重大的經營分部擁有以上大部份特徵可予以匯總成同一分部列示。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (ae) Non-current assets held for sale and discontinued operations

##### (i) Non-current assets held for sale

A non-current asset (or disposal group) is classified as held for sale if it is highly probable that its carrying amount will be recovered through a sale transaction rather than through continuing use and the asset (or disposal group) is available for sale in its present condition. A disposal group is a group of assets to be disposed of together as a group in a single transaction, and liabilities directly associated with those assets that will be transferred in the transaction. When the Group is committed to a sale plan involving loss of control of a subsidiary, all the assets and liabilities of that subsidiary are classified as held for sale when the above criteria for classification as held for sale are met, regardless of whether the Group will retain a non-controlling interest in the subsidiary after the sale.

Immediately before classification as held for sale, the measurement of the non-current assets (and all individual assets and liabilities in a disposal group) is brought up-to-date in accordance with the accounting policies before the classification. Then, on initial classification as held for sale and until disposal, the noncurrent assets (except for certain assets as explained below), or disposal groups, are recognised at the lower of their carrying amount and fair value less costs to sell. The principal exceptions to this measurement policy so far as the financial statements of the Group are concerned are deferred tax assets and financial assets (other than investments in subsidiaries, associates and joint ventures). These assets, even if held for sale, would continue to be measured in accordance with the policies set out elsewhere in Note 2. Impairment losses on initial classification as held for sale, and on subsequent remeasurement while held for sale, are recognised in profit or loss. As long as a non-current asset is classified as held for sale, or is included in a disposal group that is classified as held for sale, the non-current asset is not depreciated or amortised.

#### (ae) 持有待售的非流動資產及終止經營業務

##### (i) 持有待售的非流動資產

如果非流動資產(或出售組別)的賬面金額很可能通過銷售交易而非通過持續使用而收回，且該非流動資產(或出售組別)可按現況出售，則分類為持有待售用途。出售組別是指於單一交易中一並出售的一組資產及與該等於交易中轉移的資產直接相關的負債。當本集團承諾進行涉及喪失一家附屬公司控制權的出售計劃時，不論本集團是否將於出售後保留該附屬公司的非控股權益，該附屬公司的所有資產及負債於符合上述有關劃歸為持有待售的條件時會劃歸為持有待售用途。

在分類為持有待售用途前，非流動資產(及於一出售組別中的所有個別資產和負債)按分類前的會計政策計量。在初始分類為持有待售類別至售出時，非流動資產(除以下所述的部份資產外)或出售組別以賬面金額和公允價值減去出售成本兩者中的孰低者確認。在本集團財務報表中不使用這項計量政策的主要項目包括遞延稅項資產和金融資產(除對附屬公司、聯營公司和合營企業的投資外)。該等資產即使為持有待售用途，也會繼續按附註2其他部份所載的政策計量。於初始分類為持有待售用途及其後於列作持有待售用途的期間重新計量的減值損失在損益內確認。當非流動資產被歸類為持有待售用途，或被包括在分類為持有待售的出售組別，該非流動資產不予折舊或攤銷。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### (ae) Non-current assets held for sale and discontinued operations (continued)

##### (ii) Discontinued operations

A discontinued operation is a component of the Group's business, the operations and cash flows of which can be clearly distinguished from the rest of the Group and which represents a separate major line of business or geographical area of operations, or is part of a single coordinated plan to dispose of a separate major line of business or geographical area of operations, or is a subsidiary acquired exclusively with a view to resale.

Classification as a discontinued operation occurs upon disposal or when the operation meets the criteria to be classified as held for sale ((i) above), if earlier. It also occurs if the operation is abandoned.

Where an operation is classified as discontinued, a single amount is presented on the face of the statement of profit or loss, which comprises:

- the post-tax profit or loss of the discontinued operation; and
- the post-tax gain or loss recognised on the measurement to fair value less costs to sell, or on the disposal of the assets or disposal group(s) constituting the discontinued operation.

#### (ae) 持有待售的非流動資產及終止經營業務(續)

##### (ii) 已終止經營業務

已終止經營業務是本集團業務組成部份，運營及現金流量可與本集團其他業務清楚區分，且代表一項按業務或地區劃分的獨立主要業務；或作為出售一項按業務或地區劃分的獨立主要業務的單一統籌計劃之其中一部分，或為一間純粹為轉售而收購的附屬公司。

倘若業務被出售或符合列為持有待售的項目(詳見上文(i)的準則(如較早發生)，則分類為已終止經營業務。撤出業務時，有關業務亦會分類為已終止經營業務。

當某項業務被分類為已終止經營時，於損益表中將僅以單一數額列示，包括：

- 已終止經營業務的稅後溢利或虧損；及
- 就已終止經營業務之資產或出售組別，計算其公允價值，並扣除有關出售之成本後之除稅後溢利或虧損。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### 2.1 ISSUED BUT NOT YET EFFECTIVE INTERNATIONAL FINANCIAL REPORTING STANDARDS

The Group has not applied the following new and revised IFRSs, that have been issued but are not yet effective, in these consolidated financial statements.

Amendments to IFRS 3	<i>Reference to the Conceptual Framework<sup>1</sup></i>
Amendments to IFRS 10 and IAS 28 (2011)	<i>Sale or Contribution of Assets between an Investor and its Associate or Joint Venture<sup>3</sup></i>
IFRS 17	<i>Insurance Contracts<sup>2</sup></i>
Amendments to IFRS 17	<i>Insurance Contracts<sup>2, 4</sup></i>
Amendments to IAS 1	<i>Classification of Liabilities as Current or Non-current<sup>2</sup></i>
Amendments to IAS 1 and IFRS Practice Statement 2	<i>Disclosure of Accounting Policies<sup>2</sup></i>
Amendments to IAS 8	<i>Definition of Accounting Estimates<sup>2</sup></i>
Amendments to IAS 12	<i>Deferred Tax related to Assets and Liabilities arising from a Single Transaction<sup>2</sup></i>
Amendments to IAS 16	<i>Property, Plant and Equipment: Proceeds before Intended Use<sup>1</sup></i>
Amendments to IAS 37	<i>Onerous Contracts – Cost of Fulfilling a Contract</i>
Annual Improvements to IFRSs 2018–2020	<i>Amendments to IFRS 1, IFRS 9, Illustrative Examples accompanying IFRS 16, and IAS 41<sup>1</sup></i>

#### 2.1 已頒佈但尚未生效的國際財務報告準則

本集團並無於本財務報表內應用下列已頒佈但尚未生效的新訂或經修訂國際財務報告準則。

國際財務報告準則第3號之修訂	參考概念框架 <sup>1</sup>
國際財務報告準則第10號及國際會計準則第28號之修訂(2011)	投資者與其聯營公司或合營企業之間的資產出售或投入 <sup>3</sup>
國際財務報告準則第17號	保險合同 <sup>2</sup>
國際財務報告準則第17號之修訂	保險合同 <sup>2, 4</sup>
國際會計準則第1號之修訂	負債分類為流動負債或非流動負債 <sup>2</sup>
國際會計準則第1號及國際財務報告準則實務聲明第2號之修訂	會計政策的披露 <sup>2</sup>
國際會計準則第8號之修訂	會計估計的定義 <sup>2</sup>
國際會計準則第12號之修訂	從單一交易產生的資產和負債的遞延稅項 <sup>2</sup>
國際會計準則第16號之修訂	物業、廠房及設備：達到預定用途前所獲收入 <sup>1</sup>
國際會計準則第37號之修訂	虧損合同－履行合同的成本
國際財務報告準則2018年至2020年週期的年度改進	國際財務報告準則第1號之修訂、國際會計準則第9號之修訂、國際財務報告準則第16號說明性案例及國際會計準則第41號之修訂 <sup>1</sup>



## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### 2.1 ISSUED BUT NOT YET EFFECTIVE INTERNATIONAL FINANCIAL REPORTING STANDARDS (Continued)

- 1 Effective for annual periods beginning on or after 1 January 2022
- 2 Effective for annual periods beginning on or after 1 January 2023
- 3 No mandatory effective date yet determined but available for adoption
- 4 As a consequence of the amendments to IFRS 17 issued in October 2020, IFRS 4 was amended to extend the temporary exemption that permits insurers to apply IAS 39 rather than IFRS 9 for annual periods beginning before 1 January 2023

Further information about those IFRSs that are expected to be applicable to the Group is described below:

Amendments to IFRS 3 are intended to replace a reference to the previous Framework for the Preparation and Presentation of Financial Statements with a reference to the Conceptual Framework for Financial Reporting issued in June 2018 without significantly changing its requirements. The amendments also add to IFRS 3 an exception to its recognition principle for an entity to refer to the Conceptual Framework to determine what constitutes an asset or a liability. The exception specifies that, for liabilities and contingent liabilities that would be within the scope of IAS 37 or IFRIC-Int 21 if they were incurred separately rather than assumed in a business combination, an entity applying IFRS 3 should refer to IAS 37 or IFRIC-Int 21 respectively instead of the Conceptual Framework. Furthermore, the amendments clarify that contingent assets do not qualify for recognition at the acquisition date. The Group expects to adopt the amendments prospectively from 1 January 2022. Since the amendments apply prospectively to business combinations for which the acquisition date is on or after the date of first application, the Group will not be affected by these amendments on the date of transition.

#### 2.1 已頒佈但尚未生效的國際財務報告準則(續)

- 1 於2022年1月1日或之後開始之年度期間生效
- 2 於2023年1月1日或之後開始之年度期間生效
- 3 尚未釐定強制生效日期但可供採納
- 4 作為2020年10月發佈的國際財務報告準則第17號修訂的結果，對國際財務報告準則第4號進行了修訂，以延長臨時豁免允許保險公司在2023年1月1日之前開始的年度期間適用國際會計準則第39號而非國際財務報告準則第9號

預期適用於本集團的有關國際財務報告準則的進一步資料載列如下。

國際財務報告準則第3號之修訂旨在以對2018年6月發佈的財務報告概念框架的引用取代對先前財務報表編製和列報框架的引用，而無需大幅度改變其要求。該等修訂亦為國際財務報告準則第3號之確認原則增添了例外，以使企業可利用概念框架作為參考以決定資產或負債的構成。該例外規定，對於在國際財務報告準則第37號或國際財務報告詮釋委員會21號解釋範圍內發生的負債和或有負債，如果是單獨發生而不是在企業合併中產生的，應採用國際財務報告準則第3號的實體且應參考國際會計準則第37號或國際財務報告詮釋委員會21號解釋而不是概念框架。此外，該修訂闡明或有資產在購買日不符合確認條件。本集團預期自2022年1月1日起採用該修訂。由於該修訂適用於購置日期為首次申請日或之後的企業合併，因此本集團在過渡期將不受這些修訂的影響。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### 2.1 ISSUED BUT NOT YET EFFECTIVE INTERNATIONAL FINANCIAL REPORTING STANDARDS (Continued)

Amendments to IFRS 10 and IAS 28 (2011) address an inconsistency between the requirements in IFRS 10 and in IAS 28 (2011) in dealing with the sale or contribution of assets between an investor and its associate or joint venture. The amendments require a full recognition of a gain or loss resulting from a downstream transaction when the sale or contribution of assets between an investor and its associate or joint venture constitutes a business. For a transaction involving assets that do not constitute a business, a gain or loss resulting from the transaction is recognised in the investor's profit or loss only to the extent of the unrelated investor's interest in that associate or joint venture. The mandatory effective date for this amendment is not yet determined but early adoption is permitted. The amendments are not expected to have any significant impact on the Group's financial statements.

Amendments to IAS 1 Classification of Liabilities as Current or Non-current clarify the requirements for classifying liabilities as current or non-current. The amendments specify that if an entity's right to defer settlement of a liability is subject to the entity complying with specified conditions, the entity has a right to defer settlement of the liability at the end of the reporting period if it complies with those conditions at that date. Classification of a liability is unaffected by the likelihood that the entity will exercise its right to defer settlement of the liability. The amendments also clarify the situations that are considered a settlement of a liability. The amendments are effective for annual periods beginning on or after 1 January 2023 and shall be applied retrospectively. Earlier application is permitted. The amendments are not expected to have any significant impact on the Group's financial statements.

#### 2.1 已頒佈但尚未生效的國際財務報告準則(續)

國際財務報告準則第10號及國際會計準則第28號之修訂旨在消除國際財務報告準則第10號及國際會計準則第28號之間有關投資者與其聯營公司或合營公司之間資產出售或投入兩者規定的不一致情況。該等修訂規定，當投資者與其聯營公司或合營公司之間的資產出售或投入構成一項業務時，須全部確認收益或虧損。當交易涉及不構成一項業務之資產時，由該交易產生的收益或虧損之損益表內確認，惟僅以下相關投資者於該聯營或合營公司之權益為限。該等修訂的強制生效日期尚未厘定，但允許提前採納。該等修訂預期不會對本集團財務報告產生重大影響。

國際會計準則第1號流動或非流動負債分類之修訂澄清將負債分類為流動或非流動的要求。該等修訂規定，如果實體延遲清償債務的權利受該實體符合特定條件的約束，則在報告期結束時點，如果該實體符合這些條件，該實體有權延遲清償債務。負債的分類不受實體行使其延遲清償債務權利的可能性的影響。該等修訂澄清了被視為賠償責任的情形。該修訂自2023年1月1日或之後開始的年度期間生效，並應追溯應用。允許提前採用。該等修訂預期不會對本集團的財務報表造成重大影響。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### 2.1 ISSUED BUT NOT YET EFFECTIVE INTERNATIONAL FINANCIAL REPORTING STANDARDS (Continued)

Amendments to IAS 1 Disclosure of Accounting Policies require entities to disclose their material accounting policy information rather than their significant accounting policies. Accounting policy information is material if, when considered together with other information included in an entity's financial statements, it can reasonably be expected to influence decisions that the primary users of general purpose financial statements make on the basis of those financial statements. Amendments to IFRS Practice Statement 2 provide non-mandatory guidance on how to apply the concept of materiality to accounting policy disclosures. Amendments to IAS 1 are effective for annual periods beginning on or after 1 January 2023 and earlier application is permitted. Since the guidance provided in the amendments to IFRS Practice Statement 2 is non-mandatory, an effective date for these amendments is not necessary. The Group is currently assessing the impact of the amendments on the Group's accounting policy disclosures.

Amendments to IAS 8 clarify the distinction between changes in accounting estimates and changes in accounting policies. Accounting estimates are defined as monetary amounts in financial statements that are subject to measurement uncertainty. The amendments also clarify how entities use measurement techniques and inputs to develop accounting estimates. The amendments are effective for annual reporting periods beginning on or after 1 January 2023 and apply to changes in accounting policies and changes in accounting estimates that occur on or after the start of that period. Earlier application is permitted. The amendments are not expected to have any significant impact on the Group's financial statements.

#### 2.1 已頒佈但尚未生效的國際財務報告準則(續)

國際會計準則第1號會計政策披露之修訂要求實體披露其重大的會計政策信息，而不是其重要的會計政策。如果會計政策信息與實體財務報表中包含的其他信息一起考慮時，可以合理預期它會影響通用財務報表的主要使用者根據這些財務報表做出的決策，則會計政策信息是重要的。國際財務報告準則實務聲明第2號的修正案就如何將重要性概念應用於會計政策披露提供了非強制性指導。國際會計準則第1號的修正案在2023年1月1日或之後開始的年度期間有效，允許提前適用。由於國際財務報告準則實務聲明第2號修正案中提供的指導是非強制性的，因此這些修正案的生效日期是不必要的。集團目前正在評估修訂對集團會計政策披露的影響。

國際會計準則第8號修正案澄清了會計估計變更和會計政策變更之間的區別。會計估計是指財務報表中存在計量不確定性的貨幣金額。修正案還闡明瞭實體如何使用計量技術和參數來制定會計估計。修正案對2023年1月1日或之後開始的年度報告期有效，並適用於該期開始或之後發生的會計政策變更和會計估計變更。允許提前採用。這些修訂預計不會對本集團的財務報表產生任何重大影響。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### 2.1 ISSUED BUT NOT YET EFFECTIVE INTERNATIONAL FINANCIAL REPORTING STANDARDS (Continued)

Amendments to IAS 12 narrow the scope of the initial recognition exception so that it no longer applies to transactions that give rise to equal taxable and deductible temporary differences, such as leases and decommissioning obligations. Therefore, entities are required to recognise a deferred tax asset and a deferred tax liability for temporary differences arising from these transactions. The amendments are effective for annual reporting periods beginning on or after 1 January 2023 and shall be applied to transactions related to leases and decommissioning obligations at the beginning of the earliest comparative period presented, with any cumulative effect recognised as an adjustment to the opening balance of retained profits or other component of equity as appropriate at that date. In addition, the amendments shall be applied prospectively to transactions other than leases and decommissioning obligations. Earlier application is permitted. The amendment are not expected to have any significant impact on the Group's financial statements.

Amendments to IAS 16 prohibit an entity from deducting from the cost of an item of property, plant and equipment any proceeds from selling items produced while bringing that asset to the location and condition necessary for it to be capable of operating in the manner intended by management. Instead, an entity recognises the proceeds from selling any such items, and the cost of those items, in profit or loss. The amendments are effective for annual periods beginning on or after 1 January 2022 and shall be applied retrospectively only to items of property, plant and equipment made available for use on or after the beginning of the earliest period presented in the financial statements in which the entity first applies the amendments. Earlier application is permitted. The amendments are not expected to have any significant impact on the Group's financial statements.

#### 2.1 已頒佈但尚未生效的國際財務報告準則(續)

國際會計準則第12號之修訂縮小首次確認例外情況的範圍，使其不再適用於產生相同的應課稅及可抵扣暫時性差異(如租賃及退役責任)的交易。因此，實體須就該等交易產生之暫時性差異確認遞延稅項資產及遞延稅項負債。該等修訂於2023年1月1日或之後開始的年度報告期間生效，且應用於所呈列最早比較期期初與租賃及退役責任相關的交易，任何累計影響已確認為調整于該日之留存利潤之期初結餘或權益之其他組成部分(如適用)。此外，該修訂應未來適用於租賃及退役責任除外的交易。允許提早應用。這些修訂預計不會對本集團的財務報表產生任何重大影響。

國際會計準則第16號之修訂禁止企業從物業、廠房及設備的成本中扣除擬定用途前進行測試期間實體出售所生產的產品而獲得的所得款項。相反，企業在損益表中確認出售此類產品的收益，以及這些產品的成本。該等修訂於2022年1月1日或之後開始的年度期間有效，且僅可追溯地適用於該企業在其財務報表所載最早期間開始或之後可使用的物業，廠房和設備項目。允許提前採用。該等修訂預期不會對本集團的財務報表造成重大影響。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### 2.1 ISSUED BUT NOT YET EFFECTIVE INTERNATIONAL FINANCIAL REPORTING STANDARDS (CONTINUED)

Amendments to IAS 37 clarify that for the purpose of assessing whether a contract is onerous under IAS 37, the cost of fulfilling the contract comprises the costs that relate directly to the contract. Costs that relate directly to a contract include both the incremental costs of fulfilling that contract (e.g., direct labour and materials) and an allocation of other costs that relate directly to fulfilling that contract (e.g., an allocation of the depreciation charge for an item of property, plant and equipment used in fulfilling the contract as well as contract management and supervision costs). General and administrative costs do not relate directly to a contract and are excluded unless they are explicitly chargeable to the counterparty under the contract. The amendments are effective for annual periods beginning on or after 1 January 2022 and shall be applied to contracts for which an entity has not yet fulfilled all its obligations at the beginning of the annual reporting period in which it first applies the amendments. Earlier application is permitted. Any cumulative effect of initially applying the amendments shall be recognised as an adjustment to the opening equity at the date of initial application without restating the comparative information. The amendments are not expected to have any significant impact on the Group's financial statements.

#### 2.1 已頒佈但尚未生效的國際財務報告準則(續)

國際會計準則第37號之修訂澄清，就根據國際會計準則第37號評估合同是否屬虧損性而言，履行合同的成本包括與合同直接相關的成本。與合同直接相關的成本包括履行該合同的增量成本(例如直接勞工及材料)及與履行合同直接相關的其他成本分配(例如分配履行合同所用物業、廠房及設備項目的折舊以及合同的管理和監督費用)。一般和行政費用不直接與合同有關，除非根據合同明確應由對方支付，否則不包括在內。該等修訂在2022年1月1日或之後開始的年度期間生效，並適用於實體在其首次適用這些修訂的年度報告期開始時尚未履行其全部義務的合同。允許提前採用。初始應用該修訂的任何累積影響應被確認為期初權益的調整，無需重述比較信息。該等修訂預期不會對本集團的財務報表造成重大影響。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 2. SIGNIFICANT ACCOUNTING POLICIES (CONTINUED) 2. 主要會計政策(續)

#### 2.1 ISSUED BUT NOT YET EFFECTIVE INTERNATIONAL FINANCIAL REPORTING STANDARDS (CONTINUED)

Annual Improvements to IFRSs 2018–2020 sets out amendments to IFRS 1, IFRS 9, Illustrative Examples accompanying IFRS 16, and IAS 41. Details of the amendments that are expected to be applicable to the Group are as follows:

- IFRS 9 Financial Instruments: clarifies the fees that an entity includes when assessing whether the terms of a new or modified financial liability are substantially different from the terms of the original financial liability. These fees include only those paid or received between the borrower and the lender, including fees paid or received by either the borrower or lender on the other's behalf. An entity applies the amendment to financial liabilities that are modified or exchanged on or after the beginning of the annual reporting period in which the entity first applies the amendment. The amendment is effective for annual periods beginning on or after 1 January 2022. Earlier application is permitted. The amendment is not expected to have a significant impact on the Group's financial statements.
- IFRS 16 Leases: removes the illustration of payments from the lessor relating to leasehold improvements in Illustrative Example 13 accompanying IFRS 16. This removes potential confusion regarding the treatment of lease incentives when applying IFRS 16.

#### 2.1 已頒佈但尚未生效的國際財務報告準則(續)

國際財務報告準則2018年至2020年周期年度改進列出了國際財務報告準則第1號之修訂、國際財務報告準則第9號之修訂、國際財務報告準則第16號說明性案例及國際會計準則第41號之修訂。預計將適用於本集團的修訂細節如下：

- 國際財務報告準則第9號金融工具：澄清了實體在評估新的或修改的金融負債條款是否與原始金融負債條款有實質性差異時所包含的費用。這些費用僅包括借款人與貸款人之間支付或收取的費用，包括借款人或貸款人代表對方支付或收取的費用。適用於首次適用該修訂的年度報告期開始時或之後被修改或交換的金融負債。該修訂本於2022年1月1日或之後的年度期間生效。允許提前採用。預計該修訂不會對本集團的財務報表產生重大影響。
- 國際財務報告準則第16號租賃：刪除了附隨國際財務報告準則第16號說明性案例13中出租人償還租賃物業裝修之說明。消除了應在應用國際財務報告準則第16號對關於處理租賃獎勵有關的任何潛在混淆情況。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 3. CHANGES IN ACCOUNTING POLICIES AND DISCLOSURES

The Group has adopted the following revised IFRSs for the first time for the current year's consolidated financial statements.

Amendments to IFRS 9, IAS 39, IFRS 7, IFRS 4 and IFRS 16      *Interest Rate Benchmark – Phase 2*

Amendment to IFRS 16      Covid-19-Related Rent Concessions beyond 30 June 2021 (early adopted)

The nature and the impact of the revised IFRSs are described below:

- (a) Amendments to IFRS 9, IAS 39, IFRS 7, IFRS 4 and IFRS 16 address issues not dealt with in the previous amendments which affect financial reporting when an existing interest rate benchmark is replaced with an alternative risk-free rate (“RFR”). The amendments provide a practical expedient to allow the effective interest rate to be updated without adjusting the carrying amount of financial assets and liabilities when accounting for changes in the basis for determining the contractual cash flows of financial assets and liabilities, if the change is a direct consequence of the interest rate benchmark reform and the new basis for determining the contractual cash flows is economically equivalent to the previous basis immediately preceding the change. In addition, the amendments permit changes required by the interest rate benchmark reform to be made to hedge designations and hedge documentation without the hedging relationship being discontinued. Any gains or losses that could arise on transition are dealt with through the normal requirements of IFRS 9 to measure and recognise hedge ineffectiveness. The amendments also provide a temporary relief to entities from having to meet the separately identifiable requirement when an RFR is designated as a risk component. The relief allows an entity, upon designation of the hedge, to assume that the separately identifiable requirement is met, provided the entity reasonably expects the RFR risk component to become separately identifiable within the next 24 months. Furthermore, the amendments require an entity to disclose additional information to enable users of financial statements to understand the effect of interest rate benchmark reform on an entity's financial instruments and risk management strategy. These amendments had no material impact on the consolidated financial statements of the Group.

### 3. 會計政策及披露的修訂

編制本年度合併財務報表時本集團首次採納了以下修訂後的國際財務報告準則。

國際財務報告準則第9號、國際會計準則第39號、國際財務報告準則第7號、國際財務報告準則第4號及國際財務報告準則第16號之修訂      *利率基準改革—第二階段*

國際財務報告準則第16號之修訂      2021年6月30日後新冠肺炎疫情相關租金減讓(提前適用)

經修訂的《國際財務報告準則》的性質和影響說明如下：

- (a) 國際財務報告準則第9號、國際會計準則第39號、國際財務報告準則第7號、國際財務報告準則第4號以及國際財務報告準則第16號之修訂旨在解決此前修訂中未涉及的問題，即以無風險利率(RFR)替代現行利率基準時對財務報告的影響。第二階段修訂提供了一項實用變通方法，即在不調整金融資產及負債賬面價值的情況下，更新確認金融資產和金融負債合同現金流量的實際利率，前提是該變更是利率基準改革所要求的直接後果，且用於確定合同現金流量的新基準與舊基準在經濟上相當。此外，該等修訂指出僅因利率基準改革而對套期指定和套期文檔進行的修改不會導致套期關係的終止。過渡期間可能產生的任何損益均按照現行國際財務報告準則第9號的規定處理，以衡量和確認套期無效性。該等修訂還提供了暫時性方案以解決在RFR被指定為風險成分的情況下，實體必須滿足可單獨識別的要求。當實體合理預期替代基準利率將自其被指定為非合同明確的風險成分之日起24個月內滿足「可單獨識別」的，視同其滿足「可單獨識別」的要求。此外，該修訂還要求實體披露其他信息，以使財務報表的使用者能夠了解利率基準改革對實體的金融工具和風險管理策略的影響。修訂案對本集團合併財務資料沒有重大影響。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 3. CHANGES IN ACCOUNTING POLICIES AND DISCLOSURES (CONTINUED) 3. 會計政策及披露的修訂(續)

(b) Amendment to IFRS 16 issued in April 2021 extends the availability of the practical expedient for lessees to elect not to apply lease modification accounting for rent concessions arising as a direct consequence of the covid-19 pandemic by 12 months. Accordingly, the practical expedient applies to rent concessions for which any reduction in lease payments affects only payments originally due on or before 30 June 2022, provided the other conditions for applying the practical expedient are met. The amendment is effective retrospectively for annual periods beginning on or after 1 April 2021 with any cumulative effect of initially applying the amendment recognised as an adjustment to the opening balance of retained profits at the beginning of the current accounting period. Earlier application is permitted. The amendment did not have any significant impact on the financial position and performance of the Group as there were no lease payments reduced or waived by the lessors as a result of the covid-19 pandemic during the year.

(b) 2021年4月頒佈的國際財務報告準則第16號之修訂，將承租人可選擇簡化方法而不採用租賃變更的方法來核算因新冠疫情直接導致的租金減讓延長了12個月。因此，在滿足應用簡化方法的其他條件下，簡化方法適用於租金的減免為原定於2022年6月30日前到期的租賃付款額。該修訂案適用於2021年4月1日或之後開始的年度，且應追溯應用，並將首日執行該修訂與現行準則的差異追溯調整本期期初留存收益。該修訂允許提前適用。鑒於本年本集團未發生租金減讓，或因Covid-19流行出租方免除租金的事項，該修訂對本集團財務報表沒有任何重大影響。



## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 4. ACCOUNTING JUDGEMENT AND ESTIMATES

The Group's financial condition and results of operations are sensitive to accounting methods, assumptions and estimates that underlie the preparation of these financial statements. The Group bases the assumptions and estimates on historical experience and on various other assumptions that the Group believes to be reasonable and which form the basis for making judgements about matters that are not readily apparent from other sources. Actual results may differ from those estimates as facts, circumstances and conditions change.

The selection of critical accounting policies, the judgements and other uncertainties affecting the application of those policies and the sensitivity of reported results to changes in conditions and assumptions are factors to be considered when reviewing these financial statements. The principal accounting policies are set forth in Note 2. The Group believes that the following critical accounting policies involve the most significant judgements and estimates used in the preparation of these financial statements.

#### (a) Impairment losses for non-current assets

In considering the impairment losses that may be required for certain of the Group's assets which include property, plant and equipment (including right-of-use assets), investment properties, intangible assets, investments in associates and goodwill, the recoverable amount of the asset needs to be determined. The recoverable amount is the greater of the fair value less costs to sell and the value in use. It is difficult to precisely estimate the selling price because quoted market prices for these assets may not be readily available. In determining the value in use, expected cash flows generated by the asset are discounted to their present value, which requires significant judgement particularly in relation to the key assumptions adopted, including revenue growth rates, gross profit margins, long-term growth rates, inflation rates, the discount rate applied in the discounted cash flow forecast and the remaining useful economic lives of the relevant assets. The information about the impairment losses for non-current assets of the Group is disclosed in Note 15, Note 16, Note 18, Note 19 and Note 21 to the financial statements.

### 4. 會計判斷及估計

本集團的財務狀況和經營成果對編製財務報表時所採用的會計方法、假設和估計有敏感變動。本集團對這些假設和估計是基於以往的經驗和各種其他假設，而本集團亦相信這是合理的。本集團亦按這些假設和估計為基準，對一些不明顯地能從其他來源確定的事項作出判斷。管理層會不斷評估這些估計。實際結果可能因事實、情況和條件的改變而與估計金額有異。

對重大會計政策的選擇、影響對這些政策的應用的判斷和其他不確定因素，以及報告的經營成果對條件和假設發生變化的敏感性均是審閱財務報表時應考慮的因素。主要會計政策已載列於附註2。本集團認為，在編製財務報表時，下列重大會計政策涉及最主要的判斷和估計。

#### (a) 非流動資產減值損失

當考慮對本集團若干資產(包括物業、廠房及設備(含使用權資產)、投資性物業、無形資產、對聯營公司的投資和商譽)計提減值虧損時，則須確定該等資產之可收回金額。可收回金額為公允價值減銷售成本或使用價值之較高者。由於並未取得該等資產之市場報價，因此難以準確估計售價。於確定使用價值時，該資產產生之預期現金流量將折現至其現值，而此需對收入增長率、毛利率、長期增長率、通貨膨脹率、預期現金流量折現率以及相關資產的剩餘經濟使用壽命等項目作出重大判斷。有關本集團非流動資產減值損失的資訊於財務報表附註15、附註16、附註18、附註19及附註21披露。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 4. ACCOUNTING JUDGEMENT AND ESTIMATES (CONTINUED) 4. 會計判斷及估計(續)

#### (b) Impairment losses on receivables and contract assets

The Group uses a provision matrix to calculate ECLs for trade receivables, contract assets and other receivables. The provision rates are based on the ageing of balances for groupings of various customer segments that have similar loss patterns (i.e., by geography, customer type).

The provision matrix is initially based on the Group's historical observed default rates. The Group will calibrate the matrix to adjust the historical credit loss experience with forward-looking information. At each reporting date, the historical observed default rates are updated and changes in the forward-looking estimates are analysed.

The assessment of the correlation among historical observed default rates, forecast economic conditions and ECLs is a significant estimate. The amount of ECLs is sensitive to changes in circumstances and forecast economic conditions. The Group's historical credit loss experience and forecast of economic conditions may also not be representative of a customer's actual default in the future. The information about the ECLs on the Group's trade receivables, contract assets and other receivables is disclosed in Note 23, Note 25, Note 26 and Note 27 to the financial statements, respectively.

#### (c) Construction contracts

As explained in accounting policies set out in Note 2(y) (ii), revenue and profit recognition on an uncompleted project is dependent on estimating the total outcome of the construction contract, as well as the work done to date. Based on the Group's recent experience and the nature of the construction activity undertaken by the Group, the Group makes estimates of the point at which it considers the work is sufficiently advanced such that the costs to complete and revenue can be reliably estimated. As a result, until this point is reached, the contract assets as disclosed in Note 25 will not include profit which the Group may eventually realise from the work done to date. In addition, actual outcomes in terms of total cost or revenue may be higher or lower than estimated at the end of the reporting period, which would affect the revenue and profit recognised in future years as an adjustment to the amounts recorded to date.

#### (b) 應收賬款及合同資產減值損失

本集團使用撥備矩陣計算應收賬款、合同資產及其他應收款項的預期信貸損失。撥備率乃基於賬齡，以將具有類似損失模式的不同客戶(如：地區，客戶類型等)進行分組。

撥備矩陣最初基於本集團的歷史觀察違約率。本集團將根據前瞻性資料校準矩陣以調整歷史信貸損失經驗。於每個報告日期，對歷史觀察違約率予以更新，並對前瞻性估計的變動進行分析。

對歷史觀察違約率、經濟狀況預測及預期信貸損失之間的相關性評估屬重要估計。預期信貸損失的金額易受環境變化及經濟狀況預測的影響。本集團的歷史信貸損失經驗及對經濟狀況的預測亦或無法代表未來客戶的實際違約情況。有關本集團應收賬款、合同資產及其他應收款項預期信貸損失的信息於財務報表附註23、附註25、附註26及附註27披露。

#### (c) 建造合同

誠如附註2(y)(ii)所載之會計政策所釋述，確認未完成項目之收入及利潤取決於估計建造合同之總結果及迄今已完成之工程。根據本集團近期經驗及本集團所進行工程活動之性質，本集團於其認為工程已進展至足以可靠地估計完成成本及收入時做出估計。因此，直至此時點之前，附註25所披露的合同資產不會計入本集團迄今已完成工程最終可能實現的利潤。此外，按總成本或收入計算的實際結果可能高於或低於報告期末之估計金額，並透過對迄今記錄金額作出調整而影響於未來年度確認之收入及利潤。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 4. ACCOUNTING JUDGEMENT AND ESTIMATES (CONTINUED) 4. 會計判斷及估計(續)

#### (d) Provision for warranty

The Group will rectify product defects of wind turbines, steam turbines and distributed control system products arising within one to five years of the date of sale. Besides, the Group also provides for warranty of construction services for general repairs or defects occurring during the warranty period. The Group estimates warranty costs based on the Group's historical cost data, industry data and an assessment of the Group's competitors' accrual. The warranty obligation of the Group will be affected not only by the product failure rates, but also by costs incurred to repair or replace failed products. If the actual product failure rates and cost of replacement or repairs of failed products differ from the estimates, the Group will need to prospectively revise the provision for warranty costs which would affect profit or loss in future years.

Provisions for these assurance-type warranties granted by the Group are recognised based on sales volume and past experience of the level of repairs, discounted to their present values as appropriate. The information about provision for warranty of the Group is disclosed in Note 35 to the financial statements.

#### (e) Recognition of deferred tax assets

Deferred tax assets in respect of unused tax losses and tax credit carried forward and deductible temporary differences are recognised and measured based on the expected manner of realisation or settlement of the carrying amount of the assets, using tax rates enacted or substantively enacted at the end of the reporting period. In determining the carrying amounts of deferred tax assets, expected taxable profits are estimated. The estimation involves a number of assumptions relating to the operating environment of the Group and requires a significant level of judgement exercised by the directors. Any change in such assumptions and judgement would affect the carrying amounts of deferred tax assets to be recognised and therefore, the net profit in future years. The information about deferred tax assets of the Group is disclosed in Note 34 to the financial statements.

#### (d) 質保金撥備

產品售出日期之後1-5年內風機、汽輪機與分布式控制系統產生的產品缺陷，本集團將進行保修。此外，本集團亦為在保修期內發生的一般維修或缺陷提供工程服務保修。本集團根據其歷史成本數據、行業數據及其競爭對手的應計項目評估其保修成本。質保金撥備不僅受產品故障率的影響，同樣也受修復或替換故障產品成本之影響。倘若實際的產品故障率及修復或替換故障產品的成本與估算有異，本集團則須修訂未來的質保成本撥備，從而影響未來年度的損益。

本集團對上述保證型擔保的準備金根據銷售量和維修水平的以往經驗予以確認，並適當折現至其現值。有關本集團質保金撥備的資訊於財務報表附註35披露。

#### (e) 遞延稅項資產的確認

有關已結轉未被使用的稅項虧損和稅項減免以及可抵扣暫時性差異的遞延稅項資產，會運用於報告期末已實行或實質上已實行的稅率，按照資產賬面金額的預期實現或結算方式確認及計量。在確定遞延稅項資產的賬面值時，會對預期應課稅利潤作出估計，當中涉及多項有關本集團經營環境的假設，並要求董事作出大量判斷。當有關假設及判斷出現任何變動，將會影響將予確認的遞延稅項資產的賬面值，從而影響未來年度的淨利潤。有關集團遞延所得稅資產的信息在財務報表附註34中披露。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 4. ACCOUNTING JUDGEMENT AND ESTIMATES (CONTINUED) 4. 會計判斷及估計(續)

#### (f) Fair value of unlisted equity investments

The unlisted equity investments have been valued based on a market-based valuation technique as detailed in Note 42 to the financial statements. The valuation requires the Group to determine the comparable public companies (peers) and select the price multiple. In addition, the Group makes estimates about the discount for illiquidity and size differences. The Group classifies the fair value of these investments as Level 3. The fair value of the unlisted equity investments at 31 December 2021 was RMB189,674,000 (2020: RMB257,429,000).

#### (g) Depreciation

Property, plant and equipment and investment properties are depreciated on a straight-line basis over the estimated useful lives of the assets, after taking into account the estimated residual value. The Group reviews the estimated useful lives of the assets regularly. The useful lives are based on the Group's historical experience with similar assets and take into account anticipated technological changes. The depreciation expense for future periods is adjusted if there are significant changes from previous estimates.

#### (h) Income tax

The Group files income taxes with numerous tax authorities. Judgement is required in determining the provision for taxation as there are many transactions and calculations for which the ultimate tax determinations are uncertain during the ordinary course of business. For preferential tax treatments available for approved High and New Technology Enterprises, in determining the applicable tax rates for calculations of current income tax and deferred income tax, after passing the substantive approvals, the Group uses the expected tax rates that will probably be approved by tax authorities according to the tax rules and regulations enacted at the end of the reporting period. Where the final tax outcomes of these matters are different from the amounts originally recorded, the differences may impact on the current income tax and deferred income tax provisions in the periods in which the final tax outcomes became available.

#### (f) 非上市權益投資的公允價值

誠如財務報表附註42所詳述，非上市權益投資乃以市場估值法估值。估值要求本集團確定可資比較上市公司(同行)並選擇價格乘數。此外，本集團就流動性差及規模差異的折現情況進行估算。本集團將該等投資的公允價值分類為第3級。截至2021年12月31日，非上市權益投資的公允價值為人民幣189,674,000元(2020年：人民幣257,429,000元)。

#### (g) 折舊

物業、廠房及設備在扣除估計殘值之後，在預計可使用期限內按直線法計提折舊。本集團定期審閱資產的預計可使用期限。可使用期限是按本集團類似資產的已往經驗，並考慮預期的技術發展因素而釐定。如果之前的預估發生了重大改變，則對未來期間的折舊費用進行調整。

#### (h) 所得稅

本集團須向多個稅務機關繳付所得稅，由於在日常業務過程中很多交易和計算的最終稅項並不確定，在確定稅項撥備時須作出判斷。對於已獲核准為高新技術企業的稅務優惠而言，在獲得實質性的批准後，本集團根據稅務規章制度，於報告期末使用可能獲得稅務機構批准的稅率，以確定即期稅項和遞延稅項的適用稅率。當有關事項的最終稅務結果有別於初始記錄金額時，有關差異可能影響取得最終稅務結果期間的即期所得稅和遞延所得稅撥備。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 4. ACCOUNTING JUDGEMENT AND ESTIMATES (CONTINUED) 4. 會計判斷及估計(續)

#### (i) Contingent liabilities

Management judgement is required in the area of contingent liabilities particularly in assessing the outcome of possible obligations arising from the transactions as detailed in Note 44. Management reassesses the likelihood of the outcome of these possible obligations at the end of the reporting period. Where a change in the probability that an outflow of economic resources will be required to settle the obligation, a provision will be recognised in the period in which such determination is made.

#### (j) Write-down of inventories

The Group reviews the carrying amounts of inventories at the end of the reporting period to determine whether the inventories are carried at the lower of cost and net realisable value in accordance with the accounting policy set out in Note 2(s). Management estimates the net realisable value based on all available information, including the current market price of the finished goods and raw materials, and historical costs. Any change in the assumptions would increase or decrease the amount of the inventory write-down or the related reversals of write-down and affect the Group's profit. The information about the write-down of inventories of the Group is disclosed in Note 24 to the financial statements.

#### (k) Development costs

Development costs are capitalised in accordance with the accounting policy for research and development costs in Note 2(j) to the financial statements. Determining the amounts to be capitalised requires management to make assumptions regarding the expected future cash generation of the assets, discount rates to be applied and the expected period of benefits. At 31 December 2021, the carrying amount of capitalised development costs was RMB108,629,000 (2020: RMB235,340,000).

#### (l) Loss of control

The Group has several disposals of subsidiaries. Management judgements and estimation are required in determining the substance of loss of control, the date of disposal and fair value measurement of remaining equity interests held by the Group.

#### (i) 或有負債

管理層須對或有負債作出判斷，尤其是評估附註44所詳述交易所產生的可能責任之結果。管理層會於每個報告期末重新評估該等可能責任結果之可能性。倘經濟資源流出之可能性發生變動而將需結付債務，則於作出該項決定之期間確認撥備。

#### (j) 存貨撇減

本集團於每一報告期末對於存貨的賬面價值進行審閱，以確定存貨是否如附註2(s)中所述的會計政策以其成本及可變現淨值孰低者列賬。管理層根據全部可獲取信息，包括產成品及原材料的市場價格，以及歷史成本評估其可變現淨值。相關假設的任何變動會增加或減少存貨撇減或相關撇減轉回的金額，因而影響本集團的損益。有關本集團存貨撇減的資訊於財務報表附註24披露。

#### (k) 開發支出

開發支出為根據財務報表附註2(j)的研發費用會計政策予以資本化。確定要資本化的金額需要管理層對資產的預期未來現金產生量，將應用的折現率以及預期的受益期作出假設。於2021年12月31日，資本化開發成本賬面值為人民幣108,629,000元(2020年：人民幣235,340,000元)。

#### (l) 喪失控制權

本集團喪失了對部分子公司的控制權。喪失控制權的判斷依據、喪失控制權日的判斷和剩餘股權的公允價值的確定等需要本集團進行判斷。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 4. ACCOUNTING JUDGEMENT AND ESTIMATES (CONTINUED) 4. 會計判斷及估計(續)

#### (m) The assessment of associates

The Group regards Xinjiang Ganquanbao Comprehensive Energy Co., Ltd. with shareholding of 15%, and Nantong Sutong Tiandian New Energy Co., Ltd. with shareholding of 8% as associates. In determining whether the Group has significantly influence the operation of the companies, the Group has taken into account that the Group could recommended one director according to the articles, and the Group recognized investment in the two companies under equity method.

#### (m) 對聯營公司的評估

本集團將持股為15%的新疆甘泉堡綜合能源有限公司和持股比例8%的南通蘇通天電新能源有限公司作為聯營公司。在確定本集團是否對公司的經營產生重大影響時，本集團考慮到本集團可根據章程推薦一名董事，本集團對兩家公司的投資按照權益法核算。

### 5. OPERATING SEGMENT INFORMATION

#### (a) Segment reporting

The Group manages its businesses by subsidiaries, which are organised by business lines (products and services). In a manner consistent with the way in which information is reported internally to the Group's most senior executive management for the purposes of resource allocation and performance assessment, the Group has presented the following four reportable segments.

- Environmental protection segment: this segment provides environmental protection products and services which mainly consist of sulphur oxide control technologies, nitrogen oxide control technologies, rental of desulphurisation and denitrification facilities, ash removal with filter bags, water treatment related technologies and products.
- Energy conservation solutions segment: this segment provides energy saving products and services which mainly consist of plasma ignition and micro-oil ignition equipment and gas turbine improvement services and construction of energy-efficient power plants.
- Wind power products and services segment: this segment produces and sells wind turbine and its components, and provides related system solutions and services to wind power operators.
- The Group combined other business activities that are not reportable in "others". Revenue included in this category is mainly from the wind and solar power generation and the sale of other electric power control system related products.

### 5. 經營分部信息

#### (a) 分部報告

本集團以附屬公司管理其業務，該等附屬公司以經營項目(產品和服務)進行組織。為了分配資源、評估業績，向本集團最高級行政管理人員進行內部彙報的方式是一致的，本集團提出了下列四個應報告的部分。

- 環保分部：本分部提供環保產品和服務，主要包括脫硫技術、脫硝技術、脫硫脫硝設備租賃服務、濾袋式除塵、水處理相關技術和產品。
- 節能解決方案分部：本分部提供節能產品及服務，主要包括等離子點火、微油點火設施、汽輪機改造服務及節能電站之建造。
- 風電產品及服務分部：本分部生產和銷售風機及其組件，向風電運營商提供相關系統解決方案和服務。
- 本集團將未呈報的其他經營業務歸為「其他」。在此類別中的收入主要源於風力、太陽能發電及銷售其他電力控制系統相關產品。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 5. OPERATING SEGMENT INFORMATION (CONTINUED) 5. 經營分部信息(續)

#### (a) Segment reporting (Continued)

##### (i) Segment results, assets and liabilities

For the purposes of assessing segment performance and allocating resources between segments, the Group's most senior executive management monitors the results, assets and liabilities attributable to each reportable segment on the following bases:

Segment assets include all assets with the exception of interests in associates, other equity investments, tax recoverable, deferred tax assets and other corporate assets. Segment liabilities include all liabilities with the exception of income tax payable, deferred tax liabilities and other corporate liabilities.

Revenue and expenses are allocated to the reportable segments with reference to revenue generated by those segments and the expenses incurred by those segments.

The measure used for reporting segment profit is the gross profit. In addition to receiving segment information concerning the gross profit, management is also provided with segment information concerning depreciation and amortisation, interest income, finance costs, impairment of assets, inventory write-down and additions to segment non-current assets.

#### (a) 分部報告(續)

##### (i) 分部業績、資產及負債

為評估分部業績、在分部間分配資源，本集團最高級行政管理人員按以下基準對各可呈報分部的應佔業績、資產和負債進行監控：

分部資產包括所有資產，對聯營公司的投資、其他權益投資、可收回稅項、遞延稅項資產和其他行政資產除外。分部負債包括所有負債，應付所得稅、遞延稅項負債和其他行政負債除外。

收入和費用乃參考各可呈報分部產生的收入和發生的開支分配給各可呈報分部。

用於衡量可呈報分部利潤的指標為毛利。除了收到有關毛利的分部信息外，管理人員還收到有關折舊及攤銷、利息收入、財務成本、資產減值和存貨撇減和添置分部非流動資產的分部信息。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 5. OPERATING SEGMENT INFORMATION 5. 經營分部信息(續)

#### (a) Segment reporting (Continued)

##### (i) Segment results, assets and liabilities (Continued)

Information regarding the Group's reportable segments as provided to the Group's most senior executive management for the purposes of resource allocation and assessment of segment performance for the years ended 31 December 2021 and 2020 is set out below:

#### (a) 分部報告(續)

##### (i) 分部業績、資產及負債(續)

提供給本集團最高級行政管理人員用作進行資源分配並對截至2021年和2020年12月31日止年度的分部業績作出評估的關於本集團可呈報分部的信息如下：

		2021				
		Environmental protection 環保	Energy conservation solutions 節能解決方案	Wind power products and services 風電產品及服務	Others 其他	Total 總計
		RMB'000 人民幣千元	RMB'000 人民幣千元	RMB'000 人民幣千元	RMB'000 人民幣千元	RMB'000 人民幣千元
<b>Disaggregated by timing of revenue recognition</b>	<b>按收入確認時點分類</b>					
Point in time	在單個時點確認	396,910	283,016	3,237,358	556,053	4,473,337
Over time	在一段時間確認	3,848,969	3,721,845	20,353	8,753	7,599,920
<b>Revenue from external customers</b>	<b>外部客戶收入</b>	<b>4,245,879</b>	<b>4,004,861</b>	<b>3,257,711</b>	<b>564,806</b>	<b>12,073,257</b>
Inter-segment revenue	分部間收入	182,841	712,852	217,626	72,511	1,185,830
<b>Reportable segment revenue</b>	<b>可呈報分部收入</b>	<b>4,428,720</b>	<b>4,717,713</b>	<b>3,475,337</b>	<b>637,317</b>	<b>13,259,087</b>
<b>Reportable segment profit (gross profit)</b>	<b>可呈報分部利潤(毛利)</b>	<b>704,679</b>	<b>(52,363)</b>	<b>(112,073)</b>	<b>221,288</b>	<b>761,531</b>



## NOTES TO FINANCIAL STATEMENT (CONTINUED)

### 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

## 5. OPERATING SEGMENT INFORMATION 5. 經營分部信息(續)

### (a) Segment reporting (Continued)

### (a) 分部報告(續)

#### (i) Segment results, assets and liabilities (Continued)

#### (i) 分部業績、資產及負債(續)

		2021				
		Environmental protection	Energy conservation solutions	Wind power products and services	Others	Total
		環保	節能解決方案	風電產品及服務	其他	總計
		RMB'000	RMB'000	RMB'000	RMB'000	RMB'000
		人民幣千元	人民幣千元	人民幣千元	人民幣千元	人民幣千元
Depreciation and amortisation	折舊及攤銷	177,369	19,824	203,256	78,310	478,759
Impairment of property, plant and equipment	物業、廠房及設備減值	41,777	-	-	-	41,777
Impairment of contract assets	合同資產減值計提	-	-	2,607	-	2,607
Write-down of inventories	存貨撇減	1,497	2,000	269,571	-	273,068
(Reversal of impairment)/impairment of trade and bills receivables	應收賬款減值(轉回)/計提	(12,389)	15,843	82,761	(10,793)	75,422
Reversal of impairment of other non-current assets	其他非流動資產減值(轉回)	(530)	-	-	-	(530)
Impairment of deposits, prepayments and other receivables	按金、預付款項及其他應收款項減值計提	19,250	2	-	65,806	85,058
Interest income	利息收入	37,682	27,331	11,520	15,303	91,836
Finance costs (other than interest on lease liabilities)	財務成本(除租賃負債利息)	22,752	3,047	85,373	307,417	418,589
<b>Reportable segment assets</b>	<b>可呈報分部資產</b>	<b>9,561,903</b>	<b>4,877,810</b>	<b>1,883,405</b>	<b>3,233,646</b>	<b>19,556,764</b>
Additions to reportable segment non-current assets during the year*	年內添置可呈報分部非流動資產*	215,329	20,084	399,352	612,216	1,246,981
<b>Reportable segment liabilities</b>	<b>可呈報分部負債</b>	<b>6,305,629</b>	<b>3,386,544</b>	<b>1,458,453</b>	<b>1,777,656</b>	<b>12,928,282</b>

\* The amount consists of additions to property, plant and equipment and intangible assets.

\* 此金額包括物業、廠房及設備及無形資產的增加。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 5. OPERATING SEGMENT INFORMATION 5. 經營分部信息(續) (CONTINUED)

#### (a) Segment reporting (Continued)

##### (i) Segment results, assets and liabilities (Continued)

#### (a) 分部報告(續)

##### (i) 分部業績、資產及負債(續)

		2020				
		Environmental protection	Energy conservation solutions	Wind power products and services	Others	Total
		環保	節能解決方案	風電產品及服務	其他	總計
		RMB'000	RMB'000	RMB'000	RMB'000	RMB'000
		人民幣千元	人民幣千元	人民幣千元	人民幣千元	人民幣千元
<b>Disaggregated by timing of revenue recognition</b>	<b>按收入確認時點分類</b>					
Point in time	在單個時點確認	396,538	199,211	5,632,321	469,139	6,697,209
Over time	在一段時間確認	4,383,341	4,366,662	157,226	20,040	8,927,269
<b>Revenue from external customers</b>	<b>外部客戶收入</b>	4,779,879	4,565,873	5,789,547	489,179	15,624,478
Inter-segment revenue	分部間收入	283,147	179,645	1,443,564	27,471	1,933,827
<b>Reportable segment revenue</b>	<b>可呈報分部收入</b>	5,063,026	4,745,518	7,233,111	516,650	17,558,305
<b>Reportable segment profit (gross profit)</b>	<b>可呈報分部利潤(毛利)</b>	1,252,430	322,483	1,180,338	209,302	2,964,553
Depreciation and amortisation	折舊及攤銷	234,889	19,034	147,148	91,258	492,329
Impairment of property, plant and equipment	物業、廠房及設備減值	56,046	-	-	-	56,046
Impairment/(reversal of impairment) of contract assets	合同資產減值計提/(轉回)	-	856	(3,824)	-	(2,968)
Write-down of inventories	存貨撇減	1,299	514	-	-	1,813
Reversal of impairment of trade and bills receivables	應收賬款及票據減值轉回	(77,584)	(6,679)	(2,672)	(94,505)	(181,440)
Impairment/(Reversal of impairment) of deposits, prepayments and other receivables	其他應收款項減值計提/(轉回)	49,986	(9)	9,965	-	59,942
Interest income	利息收入	41,813	30,565	23,144	611	96,133
Finance costs (other than interest on lease liabilities)	財務成本(除租賃負債利息)	56,071	4,720	162,018	3,393	226,202
<b>Reportable segment assets</b>	<b>可呈報分部資產</b>	12,101,574	4,617,258	13,301,110	2,805,264	32,825,206
Additions to reportable segment non-current assets during the year*	年內添置可呈報分部非流動資產*	181,613	17,017	451,509	47,669	697,808
<b>Reportable segment liabilities</b>	<b>可呈報分部負債</b>	7,825,755	2,777,367	11,835,268	645,110	23,083,500

\* The amount consists of additions to property, plant and equipment and intangible assets.

\* 此金額包括物業、廠房及設備及無形資產的增加。

## NOTES TO FINANCIAL STATEMENT (CONTINUED)

### 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

#### 5. OPERATING SEGMENT INFORMATION 5. 經營分部信息(續)

##### (a) Segment reporting (Continued)

##### (a) 分部報告(續)

##### (ii) Reconciliations of reportable segment revenues, profit or loss, assets and liabilities

##### (ii) 可呈報分部收入、利潤、資產和負債的調節

		2021 RMB'000 人民幣千元	2020 RMB'000 人民幣千元
<b>Revenue</b>	<b>收入</b>		
Reportable segment revenue	可呈報分部收入	<b>13,259,087</b>	17,558,305
Elimination of inter-segment revenue	分部間收入抵銷	<b>(1,185,830)</b>	(1,933,827)
Consolidated revenue	合併收入	<b>12,073,257</b>	15,624,478
<b>Profit</b>	<b>利潤</b>		
Reportable segment profit	可呈報分部利潤	<b>761,531</b>	2,964,553
Elimination of inter-segment (profit)	分部間(利潤)抵銷	<b>(41,001)</b>	(9,686)
Reportable segment profit derived from the Group's external customers	取得自集團外的可呈報分部利潤	<b>720,530</b>	2,954,867
Other revenue	其他收入	<b>258,578</b>	315,344
Other income	其他收益	<b>1,022,166</b>	22,652
Other expenses	其他費用	<b>(10,778)</b>	(111,342)
Selling and distribution expenses	銷售及分銷開支	<b>(793,097)</b>	(1,094,852)
Administrative expenses	行政開支	<b>(1,859,736)</b>	(1,380,365)
Finance costs	財務成本	<b>(424,481)</b>	(573,700)
Share of profits less losses of associates	應占聯營公司利潤減虧損	<b>(15,123)</b>	72,331
Consolidated (loss)/profit before taxation	合併稅前(虧損)/利潤	<b>(1,101,941)</b>	204,935

## NOTES TO FINANCIAL STATEMENT (CONTINUED)

### 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

## 5. OPERATING SEGMENT INFORMATION 5. 經營分部信息(續)

### (CONTINUED)

#### (a) Segment reporting (Continued)

#### (ii) Reconciliations of reportable segment revenues, profit or loss, assets and liabilities (continued)

		2021 RMB'000 人民幣千元	2020 RMB'000 人民幣千元
<b>Assets</b>	資產		
Reportable segment assets	可呈報分部資產	<b>19,556,764</b>	32,825,206
Inter-segment elimination	分部間抵銷	<b>(439,788)</b>	(556,425)
		<b>19,116,976</b>	32,268,781
Interests in associates	對聯營公司的投資	<b>1,123,944</b>	484,699
Other equity investments	其他權益投資	<b>2,289,712</b>	2,227,673
Tax recoverable	可收回稅項	<b>35,875</b>	71,128
Deferred tax assets	遞延稅項資產	<b>380,623</b>	691,521
Unallocated head office and corporate assets	未分配總部及行政資產	<b>1,523,860</b>	1,038,928
<b>Consolidated total assets</b>	合併資產總額	<b>24,470,990</b>	36,782,730
<b>Liabilities</b>	負債		
Reportable segment liabilities	可呈報分部負債	<b>12,928,282</b>	23,083,500
Inter-segment elimination	分部間抵銷	<b>(508,963)</b>	(520,674)
		<b>12,419,319</b>	22,562,826
Income tax payable	應付所得稅	<b>15,405</b>	44,726
Deferred tax liabilities	遞延稅項負債	<b>457,853</b>	501,984
Unallocated head office and corporate liabilities	未分配總部及行政負債	<b>3,096,154</b>	5,529,056
<b>Consolidated total liabilities</b>	合併負債總額	<b>15,988,731</b>	28,638,592

#### (iii) Geographical information

The Group did not have significant business operations outside the PRC, and therefore, no geographic segment information is presented.

#### (a) 分部報告(續)

#### (ii) 可呈報分部收入、利潤、資產和負債的調節(續)

#### (iii) 地域信息

本集團並無於中國境外經營的重大業務，因此並無呈報地區分部資訊。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 5. OPERATING SEGMENT INFORMATION (CONTINUED)      5. 經營分部信息(續)

#### (a) Segment reporting (Continued)

##### (iv) Major customers

Revenue of approximately RMB8,224,138,000 (2020: RMB12,532,793,000) was derived from related parties under China Energy and relating to the environmental protection segment, the energy conservation solutions segment, the wind power products and services segment and the others segment of the Group.

#### (a) 分部報告(續)

##### (iv) 主要客戶

從國家能源集團及國家能源集團下屬的關聯方取得的來自環保、節能解決方案、風電產品及服務和所有其他分部的收入金額為人民幣8,224,138,000元(2020：人民幣12,532,793,000元)。

### 6. REVENUE

An analysis of revenue is as follows:

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
Revenue from contracts with customers	客戶合約收入	<b>11,441,478</b>	15,012,357
Revenue from other sources	其他收入來源		
Gross rental income from operating leases ( <i>Note</i> )	來自經營租賃的租賃收入 (附註)	<b>631,779</b>	612,121
		<b>12,073,257</b>	15,624,478

#### Note:

The amount mainly represents income related to service arrangements entered into by the Group with power plants to operate the desulphurisation and denitrification facilities for the treatment of sulphur oxide and nitrogen oxide generated by power plants during their electricity generation. The Group acquires or constructs the facilities and then maintains and operates the facilities to provide pollutant treatment services to power plants during the useful lives of power plants. The service charge is based on the volume of electricity sold by the power plant and a tariff determined by the National Development and Reform Commission of the PRC. These arrangements are not in the legal form of leases, but are deemed as operating leases based on their terms and conditions and are continued to be accounted for as such by applying the transition practical expedients under IFRS 16.

#### 附註：

該金額主要為與本集團與電廠簽訂的負責脫硫及脫硝設施的運行工作以在發電過程中處理電廠生成的二氧化硫及氮氧化物之服務安排所相關的收入。本集團購買或建造設施，之後在電廠運行期負責運行設施以向電廠提供污染物處理服務。根據電廠售出的電量以及國家發展和改革委員會制定的收費標準收取服務費用。此等安排雖並不是法律形式上的租賃，但根據其條款與條件被視同為經營租賃，並繼續通過應用IFRS16下的過渡安排進行核算。

## NOTES TO FINANCIAL STATEMENT (CONTINUED)

### 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

#### 6. REVENUE (CONTINUED)

##### (a) Disaggregated revenue information

Revenue from contracts with customers for the year ended 31 December 2021

Segments	分部	Environmental protection	Energy conservation solutions	Wind power products and services	Others	Total
		環保	節能解決方案	風電產品及服務	其他	總計
		RMB'000	RMB'000	RMB'000	RMB'000	RMB'000
		人民幣千元	人民幣千元	人民幣千元	人民幣千元	人民幣千元
<b>Types of goods or services</b>	<b>商品及服務類別</b>					
Sale of industrial products	銷售商品	396,910	283,016	3,237,358	556,053	4,473,337
Revenue from construction contracts	建造合同收入	2,236,443	3,721,845	-	-	5,958,288
Rendering of services	提供服務	806,538	-	20,353	8,753	835,644
Service concession arrangement revenue	服務特許權協定收入	174,209	-	-	-	174,209
Total	總計	3,614,100	4,004,861	3,257,711	564,806	11,441,478
<b>Geographical market</b>	<b>地域市場</b>					
Mainland China	中國大陸	3,614,100	4,004,861	3,257,711	564,806	11,441,478
Total	總計	3,614,100	4,004,861	3,257,711	564,806	11,441,478
<b>Timing of revenue recognition</b>	<b>收入確認時間</b>					
Goods transferred at a point in time	於某一時點轉讓的商品	396,910	283,016	3,237,358	556,053	4,473,337
Services transferred over time	隨時間轉讓的服務	3,217,190	3,721,845	20,353	8,753	6,968,141
Total	合計	3,614,100	4,004,861	3,257,711	564,806	11,441,478

The revenue information above is based on the geographical locations of where the customers signed the contracts or agreements.

上述收入信息是基於簽訂合同或協議的客戶所在的地理位置。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 6. REVENUE (CONTINUED)

#### (a) Disaggregated revenue information (Continued)

Revenue from contracts with customers for the year ended 31 December 2020

Segments	分部	Environmental protection 環保 RMB'000 人民幣千元	Energy conservation solutions 節能解決方案 RMB'000 人民幣千元	Wind power products and services 風電產品及服務 RMB'000 人民幣千元	Others 其他 RMB'000 人民幣千元	Total 總計 RMB'000 人民幣千元
<b>Types of goods or services</b>	<b>商品及服務類別</b>					
Sale of industrial products	銷售商品	396,538	199,211	5,632,321	469,139	6,697,209
Revenue from construction contracts	建造合同收入	2,725,430	4,366,662	-	-	7,092,092
Rendering of services	提供服務	746,812	-	157,226	20,040	924,078
Service concession arrangement revenue	服務特許權協定收入	298,978	-	-	-	298,978
<b>Total</b>	<b>總計</b>	<b>4,167,758</b>	<b>4,565,873</b>	<b>5,789,547</b>	<b>489,179</b>	<b>15,012,357</b>
<b>Geographical market</b>	<b>地域市場</b>					
Mainland China	中國大陸	4,167,758	4,565,873	5,789,547	489,179	15,012,357
<b>Total</b>	<b>總計</b>	<b>4,167,758</b>	<b>4,565,873</b>	<b>5,789,547</b>	<b>489,179</b>	<b>15,012,357</b>

The revenue information above is based on the geographical locations of where the customers signed the contracts or agreements.

上述收入資訊是基於簽訂合同或協議的客戶所在的地理位置。

Timing of revenue recognition	收入確認時間	RMB'000 人民幣千元	RMB'000 人民幣千元	RMB'000 人民幣千元	RMB'000 人民幣千元	RMB'000 人民幣千元
Goods transferred at a point in time	于某一時點轉讓的商品	396,538	199,211	5,632,321	469,139	6,697,209
Services transferred over time	隨時間轉讓的服務	3,771,220	4,366,662	157,226	20,040	8,315,148
<b>Total</b>	<b>總計</b>	<b>4,167,758</b>	<b>4,565,873</b>	<b>5,789,547</b>	<b>489,179</b>	<b>15,012,357</b>

## NOTES TO FINANCIAL STATEMENT (CONTINUED)

### 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

#### 6. REVENUE (CONTINUED)

##### (a) Disaggregated revenue information (Continued)

Set out below is the reconciliation of the revenue from contracts with customers to the amounts disclosed in the segment information:

*For the year ended 31 December 2021*

Segments	分部	Environmental protection 環保 RMB'000 人民幣千元	Energy conservation solutions 節能解決方案 RMB'000 人民幣千元	Wind power products and services 風電產品及服務 RMB'000 人民幣千元	Others 其他 RMB'000 人民幣千元	Total 總計 RMB'000 人民幣千元
Revenue from contracts with customers	來自客戶合約收入	3,614,100	4,004,861	3,257,711	564,806	11,441,478
Gross rental income from operating leases	來自經營租賃的租賃收入	631,779	-	-	-	631,779
Total	總計	4,245,879	4,004,861	3,257,711	564,806	12,073,257

*For the year ended 31 December 2020*

Segments	分部	Environmental protection 環保 RMB'000 人民幣千元	Energy conservation solutions 節能解決方案 RMB'000 人民幣千元	Wind power products and services 風電產品及服務 RMB'000 人民幣千元	Others 其他 RMB'000 人民幣千元	Total 總計 RMB'000 人民幣千元
Revenue from contracts with customers	來自客戶合約收入	4,167,758	4,565,873	5,789,547	489,179	15,012,357
Gross rental income from operating leases	來自經營租賃的租賃收入	612,121	-	-	-	612,121
Total	總計	4,779,879	4,565,873	5,789,547	489,179	15,624,478

#### 6. 收入(續)

##### (a) 分拆收入信息(續)

下表載列來自客戶合約收入之調節，有關金額已於分部資料披露：

*截至二零二一年十二月三十一日止年度*

*截至二零二零年十二月三十一日止年度*



## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 6. REVENUE (CONTINUED)

#### (a) Disaggregated revenue information (Continued)

The following table shows the amounts of revenue recognised in the current reporting period that were included in the contract liabilities at the beginning of the reporting period:

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
Revenue recognised that was included in contract liabilities at the beginning of the reporting period:	計入報告期初合約負債的已確認收入：		
Sale of industrial products	銷售商品	<b>805,028</b>	1,159,802
Revenue from construction contracts	建造合同收入	<b>683,164</b>	1,014,841
		<b>1,488,192</b>	2,174,643

#### (b) Performance obligations

Information about the Group's performance obligations is summarised below:

##### ***Sale of industrial products***

The performance obligation is satisfied upon delivery of the industrial products or after installation and payment is generally due within 60 days from the date of billing.

##### ***Revenue from construction contracts***

The performance obligation is satisfied over time as services are rendered and payment is generally due within 60 days from the date of billing. A certain percentage of payment is retained by customers until the end of the retention period as the Group's entitlement to the final payment is conditional on the satisfaction of the service quality by the customers over a certain period as stipulated in the contracts.

##### ***Rendering of services***

The performance obligation is satisfied over time as services are rendered and payment is generally due within 30 days from the date of billing.

### 6. 收入(續)

#### (a) 分拆收入信息(續)

下表載列本報告期間確認的收入金額，該等金額於報告期初計入合約負債：

#### (b) 履約義務

有關本集團的履約義務的信息概列如下：

##### ***銷售商品***

該履約義務於商品交付客戶時確認已履行，通常於開票之日起60天內付款。

##### ***建造合同收入***

該履約義務隨服務的提供逐步確認履行，通常於開票之日起60天內付款。由於本集團的最終收款權取決於客戶對服務質量的滿意程度，客戶會保留一定比例的質保金直到合同規定的質保期到期後付款。

##### ***提供服務***

該履約義務隨服務的提供逐步確認履行，通常於開票之日起30天內付款。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 6. REVENUE (CONTINUED)

#### (b) Performance obligations (Continued)

##### *Service concession arrangement revenue*

Under service concession arrangement, the Group concluded that the performance obligations are the provision of construction services and operation services. Both of the performance obligations are satisfied over time as services are rendered (Note 2(y) (iii)) and payment is generally due within 30 days from the date of billing.

The amounts of transaction prices allocated to the remaining performance obligations (unsatisfied or partially unsatisfied) as at 31 December are as follows:

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
Amounts expected to be recognised as revenue:	預期確認為收入的金額：		
Within one year	一年內	<b>3,087,096</b>	7,152,231
After one year	一年以上	<b>440,303</b>	1,625,887
		<b>3,527,399</b>	8,778,118

The amounts of transaction prices allocated to the remaining performance obligations which are expected to be recognised as revenue after one year relate to construction services, of which the performance obligations are to be satisfied within two years. All the other amounts of transaction prices allocated to the remaining performance obligations are expected to be recognised as revenue within one year. The amounts disclosed above do not include variable consideration which is constrained. Using the practical expedient in IFRS 15, the amounts disclosed above do not include revenue to be recognised under the service agreements entered into by the Group with power plants to operate the desulphurisation and denitrification facilities for the treatment of sulphur oxide and nitrogen oxide generated by power plants during their electricity generation in the amount to which the Group has a right to invoice.

### 6. 收入(續)

#### (b) 履約義務(續)

##### *服務特許權協定收入*

根據服務特許權協議，本集團認定履約義務為提供建造與運營服務。兩項履約義務都隨著時間的推移服務完成而逐步履行(見附註2(y)(iii))，通常於開票之日起30天內付款。

於十二月三十一日分配至剩餘履約義務(未達成或部分未達成)的交易價格如下：

預期將於一年後確認的分配至餘下履約義務的交易價格涉及將於兩年內達成的建造服務。其他所有分配至剩餘履約義務的交易價格預期於一年後確認為收入。上述價格不包括受限可變對價。適用IFRS 15的實踐下，上述金額不包括本集團與電廠簽訂的負責脫硫及脫硝設施的運行工作以在發電過程中處理電廠生成的二氧化硫及氮氧化物之服務協議相關的本集團有開票權利可確認的收入。

## NOTES TO FINANCIAL STATEMENT (CONTINUED)

### 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

#### 7. OTHER REVENUE

#### 7. 其他收入

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
<b>Other revenue</b>	<b>其他收入</b>		
Government grants	政府補助	119,314	166,062
Interest income	利息收入	91,836	97,509
Dividend income from equity investments	權益投資股息收入	29,439	40,699
Others	其他	17,989	11,074
		<b>258,578</b>	315,344

#### 8. OTHER INCOME AND OTHER EXPENSES

#### 8. 其他收益及其他費用

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
<b>Other income</b>	<b>其他收益</b>		
Net gains on sales of raw materials	原材料銷售收益淨額	-	2,295
Net gains on disposal of subsidiaries ( <i>Note (i)</i> )	出售附屬公司收益淨額( <i>附註(i)</i> )	1,014,800	989
Others	其他	7,366	19,368
		<b>1,022,166</b>	22,652

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
<b>Other expenses</b>	<b>其他費用</b>		
Net loss on sales of raw materials	原材料銷售損失淨額	(866)	-
Net losses on disposals of property, plant and equipment and intangible assets	出售物業、廠房、設備及無形資產損失淨額	(1,350)	(7,300)
Net foreign exchange losses	匯兌損失淨額	(2,601)	(12,867)
Others ( <i>Note (ii)</i> )	其他( <i>附註(ii)</i> )	(5,961)	(91,175)
		<b>(10,778)</b>	(111,342)

Notes:

- (i) Net gains on disposal of subsidiaries for the year ended 31 December 2021 presented the net gains on disposal of Guodian United Power Technology Co., Ltd. ("United Power") amounting to RMB1,091,537,000, the net gains on disposal of Jiangsu Deke Environmental Equipment Co., Ltd. ("Jiangsu Deke") amounting to RMB31,418,000, and the net loss on disposal of Guodian Galaxy Water Co., Ltd. ("Galaxy Water") amounting to RMB108,155,000.
- (ii) Others included in other expenses for the year ended 31 December 2020 represented the compensations accrued for two arbitrations, Datong Huajian Water Treatment Co., Ltd. ("Huajian Water") and Laiyuan Suntien Wind Energy Co., Ltd. ("Laiyuan Suntien").

附註：

- (i) 截至2021年12月31日止，出售子公司的淨收益為國電聯合動力技術有限公司(「聯合動力」)出售淨收益1,091,537,000元，江蘇德克環保設備有限公司(「江蘇德克」)出售淨收益為人民幣31,418,000元，以及國電銀河水務股份有限公司(「銀河水務」)的出售淨虧損，金額為人民幣108,155,000元。
- (ii) 截至2020年12月31日，其他費用—其他是為大同華建水務有限公司(「華建水務」)及涇源新天風能有限公司(「涇源新天」)兩項仲裁計提的其他應付款項。

## NOTES TO FINANCIAL STATEMENT (CONTINUED)

### 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

#### 9. FINANCE COSTS

#### 9. 財務成本

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
Interest on bank loans and other borrowings	銀行及其他借款利息	421,129	570,890
Interest on lease liabilities	租賃負債利息	5,892	7,046
Less: Interest expenses capitalised into property, plant and equipment	減：資本化在物業、廠房及設備中的利息開支	(2,540)	(4,236)
		<b>424,481</b>	573,700

#### 10. (LOSS)/PROFIT BEFORE TAXATION

#### 10. 稅前(虧損)/利潤

(Loss)/profit before taxation is arrived at after charging/(crediting):

稅前(虧損)/利潤已扣除/(計入)：

##### (a) Staff costs

##### (a) 員工成本

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
Salaries, wages and other benefits (Note)	薪金、工資及其他福利(附註)	1,420,558	1,152,932
Contributions to defined contribution retirement plan (Note)	界定供款退休計畫的供款(附註)	161,980	75,090
		<b>1,582,538</b>	1,228,022

Note:

附註：

The above staff costs include directors' and supervisors' emoluments.

以上員工成本包括董事和監事的薪酬。

Pursuant to the relevant labour rules and regulations in the PRC, the Company and its PRC subsidiaries participated in defined contribution retirement schemes (the "PRC Schemes") organised by the relevant local government authorities for its employees. The Group is required to make contributions to the PRC Schemes at a certain percentage of total salaries of the employees. The local government authorities are responsible for the entire pension obligations payable to retired employees.

根據中國相關勞動法律法規，本公司及其中國附屬公司為其員工參加了有關地方政府機關組織的界定供款退休計劃(「中國計劃」)。本集團須對中國計劃繳納員工總薪金的一定比例的供款。當地政府機關負責全部應付離退休職工的養老金。

In addition, certain subsidiaries and its staff participate in a retirement plan managed by China Energy on a voluntary basis to supplement the above-mentioned schemes and the Group is required to make contributions at 5% to 8% of total salaries of the employees. The Group has no other material obligation to make payments in respect of pension benefits associated with these schemes and the supplementary retirement plan other than the annual contributions described above.

此外，若干附屬公司及其職工可自願參加國家能源集團管理的退休計劃作為對上述計劃的補充，本集團須繳納員工總薪金的5%到8%的供款。除上述年度供款以外，本集團沒有其他就退休福利須向這些計劃與補充退休計劃支付款項的重大責任。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 10. (LOSS)/PROFIT BEFORE TAXATION 10. 稅前(虧損)/利潤(續) (CONTINUED)

(b) Other items

(b) 其他項目

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
Amortisation	攤銷		
– intangible assets	– 無形資產	<b>132,362</b>	79,153
Depreciation	折舊		
– investment properties	– 投資性物業	<b>9,644</b>	8,704
– property, plant and equipment	– 物業、廠房及設備	<b>336,753</b>	404,472
Impairment/(reversal of impairment)	減值虧損/(減值轉回)		
– property, plant and equipment	– 物業、廠房及設備	<b>41,777</b>	56,046
– trade and bills receivables	– 應收賬款及應收票據	<b>75,422</b>	(181,440)
– deposits, prepayments and other receivables	– 按金、預付款項及其他應收款項	<b>85,058</b>	59,942
– other non-current assets	– 其他非流動資產	<b>(530)</b>	–
– inventories	– 存貨	<b>273,068</b>	1,813
– contract assets	– 合同資產	<b>2,607</b>	(2,968)
Auditors' remuneration	審計師酬金		
– annual audit services	– 年度審計服務	<b>7,280</b>	10,560
– interim review services	– 中期審閱服務	<b>3,980</b>	3,980
Equity-settled share based expense	股份支付費用	<b>313</b>	–
Operating lease expenses (Note (i))	經營租賃費用(附註(i))		
– hire of plant, equipment and motor vehicles	– 廠房、設備及汽車租賃	<b>7,511</b>	11,469
– hire of properties	– 物業租賃	<b>23,173</b>	17,992
Research and development costs	研發成本	<b>277,089</b>	269,622
Provision for warranty	質保金撥備	<b>381,816</b>	294,814
Rental income from investment properties	投資性物業的租金收入	<b>(33,750)</b>	(35,785)
Direct outgoings of investment properties	投資性物業的直接開支	<b>2,525</b>	21,851
Cost of inventories (Note 24(b))	存貨成本(附註24 (b))	<b>4,475,205</b>	5,325,212

Notes:

(i) Upon the adoption of IFRS 16, operating lease charges only represent the lease charges for the low-value assets and short-term leases.

附註：

(i) 在適用IFRS16新租賃準則下，對於經營性租賃所指為低價值資產租賃以及短期租賃。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 11. INCOME TAX IN THE CONSOLIDATED STATEMENT OF PROFIT OR LOSS 11. 合併損益表內的所得稅

(a) Taxation in the consolidated statement of profit or loss represents:

(a) 合併損益表的稅項指：

		2021 RMB'000 人民幣千元	2020 RMB'000 人民幣千元
<b>Current tax</b>	<b>本期稅項</b>		
Provision for the year	本年度撥備	<b>55,503</b>	171,678
(Overprovision)/underprovision and adjustments of prior year	過往年度撥備(過度撥備)/不足及其他調整	<b>(5,507)</b>	46,340
		<b>49,996</b>	218,018
<b>Deferred tax (Note 34(a))</b>	<b>遞延稅項(附註34(a))</b>		
Origination and reversal of temporary differences	暫時性差異的產生及轉回	<b>57,719</b>	31,350
		<b>107,715</b>	249,368

Note:

The charge for PRC enterprise income tax for the Group's subsidiaries established in Mainland China is calculated at the statutory rate of 25% (2020: 25%) on the estimated assessable profit of the period determined in accordance with relevant enterprise income tax rules and regulations. Certain of the Group's subsidiaries in Mainland China were designated as "High New Technology Enterprise" and were entitled to a preferential tax rate of 15%.

Guoneng Longyuan Boqi Environmental Technology (Hanchuan) Co., Ltd. a subsidiary of the Company, is engaged in pollution prevention and control projects as a qualified third-party enterprise, which is levied at a preferential rate of 15% (2020: 15%).

Besides, a subsidiary of the Group which is a small-scale enterprise is subject to enterprise income tax at 20% (2020: 20%).

附註：

本集團於中國成立的附屬公司之企業所得稅支出是以根據相關企業所得稅法規規定的期間估計應繳稅利潤按法定稅率25% (2020年：25%)計算，本集團若干位於中國大陸被認定為「**高新技術企業**」的附屬公司按15%優惠稅率徵稅。

本公司之附屬公司國能龍源博奇環保科技(漢川)有限公司屬於符合條件的從事污染防治項目的第三方企業，該附屬公司減按15% (2020年：15%)的稅率徵收企業所得稅。

除此之外，本集團一家附屬公司屬於小型企業並按20% (2020年：20%)徵收企業所得稅。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 11. INCOME TAX IN THE CONSOLIDATED STATEMENT OF PROFIT OR LOSS (CONTINUED) 11. 合併損益表內的所得稅(續)

**(b) Reconciliation between tax expense and accounting (loss)/profit at applicable tax rates:**

**(b) 稅項開支與會計(虧損)/利潤按照適用稅率計算的調節：**

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
(Loss)/profit before taxation	稅前(虧損)/利潤	<b>(1,101,941)</b>	204,935
Notional tax on (loss)/profit before taxation at PRC statutory tax rate	稅前(虧損)/利潤按照中國法定稅率計算的名義稅項	<b>(275,485)</b>	51,234
Effect on non-deductible expenses	不可扣減開支的影響	<b>15,111</b>	25,018
Effect of research and development additional deductions	研發開支加計扣除的影響	<b>(38,916)</b>	(28,633)
Effect of share of profits less losses of associates	應佔聯營公司利潤減虧損的影響	<b>3,851</b>	(18,470)
Effect of PRC tax concessions	中國稅務優惠的影響	<b>(42,213)</b>	(74,831)
Tax effect of unused tax losses and temporary differences not recognised	未確認的未使用稅務虧損及暫時性差異的稅項影響	<b>371,794</b>	363,912
Tax effect of unused tax losses and temporary differences not recognised in previous years but utilised or recognised in the current year	本年使用以往年度稅務虧損及未確認的暫時性差異的稅項影響	<b>(271,681)</b>	(115,202)
(Overprovision)/underprovision and adjustments of prior year	過往年度(過度撥備)/撥備不足及其他調整	<b>(5,507)</b>	46,340
Tax effects of disposal of certain listed equity securities designated at FVOCI	出售某些指定為以公允價值計量且其變動計入其他綜合收益的上市權益工具的稅務影響	<b>350,761</b>	-
Actual tax expense	實際稅項開支	<b>107,715</b>	249,368

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 12. DIRECTORS' AND SUPERVISORS' EMOLUMENTS 12. 董事及監事的薪酬

Directors' and chief executive's remuneration for the year, disclosed pursuant to the Listing Rules, section 383(1) (a), (b), (c) and (f) of the Hong Kong Companies Ordinance and Part 2 of the Companies (Disclosure of Information about Benefits of Directors) Regulation, is as follows :

根據《上市規則》、《香港公司條例》第383(1)(a)、(b)、(c)及(f)條及《公司(披露有關董事利益的資料)規例》第2部披露的董事及行政總裁於本年度的薪酬如下：

		Directors' and supervisors' fees	Salaries, allowances and benefits in kind	Discretionary bonuses	Retirement scheme contributions	2021 Total
		董事費及監事費	工資、補貼及實物福利	酌情花紅	退休金供款	2021合計
		RMB'000	RMB'000	RMB'000	RMB'000	RMB'000
		人民幣千元	人民幣千元	人民幣千元	人民幣千元	人民幣千元
<b>Directors</b>	<b>董事</b>					
Mr. CHEN Dongqing ( <i>Chief executive</i> )	陳冬青先生(執行主席)	-	746	242	116	1,104
Mr. ZHANG Jun (Resigned in June 2021)	張軍先生(2021年6月辭職)	-	440	101	49	590
Mr. TANG Chaoxiong (Resigned in April 2021)	唐超雄先生(2021年4月辭職)	-	335	56	38	429
Mr. LI Caiyun (Appointed in October 2021)	李彩雲先生(2021年10月任職)	-	113	34	17	164
Mr. WANG Zhongqu (Resigned in October 2021) ( <i>Note</i> )	王忠渠先生(2021年10月辭職) (註釋)	-	-	-	-	-
Mr. SONG Chang (Appointed in June 2021) ( <i>Note</i> )	宋暢先生(2021年6月任職)(註釋)	-	-	-	-	-
Mr. ZHANG Wenjian ( <i>Note</i> )	張文建先生(註釋)	-	-	-	-	-
Mr. GU Yuchun ( <i>Note</i> )	顧玉春先生(註釋)	-	-	-	-	-
Ms. GE Xiaojing ( <i>Note</i> )	葛曉菁女士(註釋)	-	-	-	-	-
Mr. JIANG Jianwu (Appointed in December 2021) ( <i>Note</i> )	江建武先生(2021年12月任職) (註釋)	-	-	-	-	-
<b>Independent non-executive directors</b>	<b>獨立非執行董事</b>					
Mr. SHEN Xiaoliu	申曉留先生	150	-	-	-	150
Mr. QU Jiuhui	曲久輝先生	150	-	-	-	150
Mr. XIE Qiuye	謝秋野先生	150	-	-	-	150
Mr. YEUNG, Chi Tat	楊志達先生	250	-	-	-	250
<b>Supervisors</b>	<b>監事</b>					
Mr. LUAN, Baoxing ( <i>Note</i> )	樂寶興先生(註釋)	-	-	-	-	-
Mr. XU Xingzhou (Resigned in May 2021) ( <i>Note</i> )	許興洲先生(2021年5月辭職) (註釋)	-	-	-	-	-
Ms. CHEN Jing (Appointed in June 2021) ( <i>Note</i> )	陳靜女士(2021年6月任職)(註釋)	-	-	-	-	-
Mr. WANG Shaoyu ( <i>Note</i> )	王少玉先生(註釋)	-	-	-	-	-
Ms. QIN Xiangling (Resigned in November 2021)	秦湘靈女士(2021年11月辭職)	-	336	294	88	718
Mr. LI Wei	李偉先生	-	378	267	99	744
		<b>700</b>	<b>2,348</b>	<b>994</b>	<b>407</b>	<b>4,449</b>

*Note* : The remuneration of these directors and supervisors shall be received from the enterprise with which they have signed labor contracts.

註釋：該等董事、監事的報酬在其簽訂勞動合同所在企業領取。



## NOTES TO FINANCIAL STATEMENT (CONTINUED)

### 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

#### 12. DIRECTORS' AND SUPERVISORS' EMOLUMENTS (CONTINUED)      12. 董事及監事的薪酬(續)

		Directors' and supervisors' fees	Salaries, allowances and benefits in kind	Discretionary bonuses	Retirement scheme contributions	2020 Total
		董事費及監事費	工資、補貼及實物福利	酌情花紅	退休金供款	2020合計
		RMB'000	RMB'000	RMB'000	RMB'000	RMB'000
		人民幣千元	人民幣千元	人民幣千元	人民幣千元	人民幣千元
<b>Directors</b>	<b>董事</b>					
Mr. CHEN Dongqing ( <i>Chief executive</i> )	陳冬青先生(執行主席)	-	535	214	77	826
Mr. ZHANG Jun	張軍先生	-	535	214	74	823
Mr. TANG Chaoxiong	唐超雄先生	-	513	145	70	728
Mr. WANG Zhongqu ( <i>Note</i> )	王忠渠先生(註釋)	-	-	-	-	-
Mr. ZHANG Wenjian ( <i>Note</i> )	張文建先生(註釋)	-	-	-	-	-
Mr. GU Yuchun ( <i>Note</i> )	顧玉春先生(註釋)	-	-	-	-	-
Mr. YAN Andrew (Resigned in August 2020) ( <i>Note</i> )	閻焱先生(2020年8月辭職)(註釋)	-	-	-	-	-
Ms. GE Xiaojing (Appointed in August 2020) ( <i>Note</i> )	葛曉菁女士(2020年8月任職)(註釋)	-	-	-	-	-
<b>Independent non-executive directors</b>	<b>獨立非執行董事</b>					
Mr. SHEN Xiaoliu	申曉留先生	150	-	-	-	150
Mr. QU Jiuhui	曲久輝先生	150	-	-	-	150
Mr. XIE Qiuye	謝秋野先生	150	-	-	-	150
Mr. YEUNG, Chi Tat	楊志達先生	250	-	-	-	250
<b>Supervisors</b>	<b>監事</b>					
Mr. LUAN, Baoxing ( <i>Note</i> )	樂寶興先生(註釋)	-	-	-	-	-
Mr. XU Xingzhou ( <i>Note</i> )	許興洲先生(註釋)	-	-	-	-	-
Mr. YANG Xiangbin (Resigned in February 2020) ( <i>Note</i> )	楊向斌先生(2020年2月辭職)(註釋)	-	-	-	-	-
Mr. Wang Shaoyu (Appointed in June 2020) ( <i>Note</i> )	王少玉先生(2020年6月任職)(註釋)	-	-	-	-	-
Ms. HE Lili (Resigned in March 2020) ( <i>Note</i> )	何麗麗女士(2020年3月辭職)(註釋)	-	-	-	-	-
Ms. QIN Xiangling (Appointed in March 2020)	秦湘靈女士(2020年3月任職)	-	307	164	36	507
Mr. LI Wei	李偉先生	-	380	205	48	633
		700	2,270	942	305	4,217

Note: The remuneration of these directors and supervisors shall be received from the enterprise with which they have signed labor contracts.

註釋：該等董事、監事的報酬在其簽訂勞動合同所在企業領取。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 13. INDIVIDUALS WITH HIGHEST EMOLUMENTS

Of the five individuals with the highest emoluments, none of them (2020: none) are directors and supervisors, where the directors' and supervisors' emoluments are disclosed in Note 12. The aggregate of the emoluments in respect of the five (2020: five) highest paid individuals are as follows:

		<b>2021</b>	2020
		<b>RMB'000</b>	RMB'000
		人民幣千元	人民幣千元
Salaries and other emoluments	工資及其他薪酬	<b>6,093</b>	5,783
Discretionary bonuses	酌情花紅	<b>385</b>	100
Retirement scheme contributions	退休金供款	<b>499</b>	423
		<b>6,977</b>	6,306

The emoluments of the five (2020: five) individuals with the highest emoluments are within the following bands:

		<b>2021</b>	2020
		<b>Number of</b>	Number of
		<b>Individuals</b>	Individuals
		人數	人數
HKD1,000,001 to HKD1,500,000	港幣1,000,001元至港幣1,500,000元	-	3
HKD1,500,001 to HKD2,000,000	港幣1,500,001元至港幣2,000,000元	<b>5</b>	2

### 13. 薪酬最高的個人

2021年和2020年的薪酬最高的五個人都不包括在附註12中披露的董事和監事。2021年五位(2020年：五位)薪酬最高個人的總薪酬如下：

這五位(2020年：五位)具有最高薪酬的個人的薪酬範圍如下：

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 14. (LOSS)/EARNINGS PER SHARE

The calculation of basic (loss)/earnings per share is based on the (loss)/profit attributable to ordinary equity shareholders of the Company, and the weighted average of 6,063,770,000 ordinary shares (2020: 6,063,770,000 ordinary shares) in issue during the year ended 31 December 2021.

There were no dilutive potential ordinary shares in existence during the years ended 31 December 2021 and 2020.

(Loss)/profit attributable to ordinary equity shareholders of the Company used in the basic earnings/(loss) per share calculation:

### 14. 每股(虧損)/收益

每股基本(虧損)/收益的計算依據為歸屬於本公司普通股股東的(虧損)/收益以及截至2021年12月31日止年度發行在外普通股的加權平均數為6,063,770,000股(2020年：6,063,770,000股普通股)。

於截至2021年及2020年12月31日止年度內，本公司不存在稀釋性潛在普通股。

在計算基本每股(虧損)/收益時使用的歸屬於本公司的普通股股東的(虧損)/盈利為：

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
(Loss)/profit attributable to ordinary equity shareholders of the Company, used in the basic (loss)/earnings per share calculation	用於計算每股基本(虧損)/收益的歸屬於公司權益股東的(虧損)/收益	<b>(839,574)</b>	57,123

# NOTES TO FINANCIAL STATEMENT (CONTINUED)

## 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 15. PROPERTY, PLANT AND EQUIPMENT

### 15. 物業、廠房及設備

		Buildings 樓宇 RMB'000 人民幣千元	Structures 建築物 RMB'000 人民幣千元	General equipment 通用設備 RMB'000 人民幣千元	Special power equipment 電力專用設備 RMB'000 人民幣千元	Technology and environmental protection equipment 科技環保專用設備 RMB'000 人民幣千元	Other industrial equipment 其他行業專用設備 RMB'000 人民幣千元	Construction in progress 在建工程 RMB'000 人民幣千元	Right-of-use assets (Note (iv)) 使用權資產(附註iv) RMB'000 人民幣千元	Total 總計 RMB'000 人民幣千元
<b>Cost:</b>	<b>成本：</b>									
At 1 January 2021	於2021年1月1日	2,521,248	282,297	958,942	1,325,673	2,139,819	224,432	359,589	833,047	8,645,047
Additions	增加	1,428	79	43,174	1,785	70,095	3	1,016,620	65,759	1,198,943
Transfer from construction in progress	在建工程轉入	58,133	16,182	26,334	394,040	47,689	-	(542,378)	-	-
Transfer from investment properties (Note 16)	投資性物業轉入(附註16)	15,472	-	-	-	-	-	-	2,938	18,410
Transfer to investment properties (Note 16)	轉出至投資性物業(附註16)	(268,841)	-	-	-	-	-	-	-	(268,841)
Disposals	出售	(1,273)	-	(27,986)	(1,811)	(63,759)	-	-	-	(94,829)
Disposal of subsidiaries	出售子公司	(608,424)	(155,043)	(374,575)	(581,667)	(534,853)	-	(54,037)	(303,544)	(2,612,143)
Transfer from intangible assets (Note 18)	無形資產轉入(附註18)	-	-	1,882	-	-	-	-	-	1,882
At 31 December 2021	於2021年12月31日	1,717,743	143,515	627,771	1,138,020	1,658,991	224,435	779,794	598,200	6,888,469
<b>Accumulated depreciation and impairment</b>	<b>累計折舊及減值：</b>									
At 1 January 2021	於2021年1月1日	947,388	160,845	707,161	558,967	1,324,924	110,672	33,401	169,969	4,013,327
Depreciation charge for the year	本年度折舊費	62,078	5,897	33,102	63,332	108,952	-	-	63,392	336,753
Impairment loss (Note (ii))	減值損失(附註(ii))	-	-	-	-	6,317	-	35,460	-	41,777
Transfer from investment properties (Note 16)	投資性物業轉入(附註16)	12,895	-	-	-	-	-	-	1,819	14,714
Transfer to investment properties (Note 16)	轉出至投資性物業(附註16)	(79,425)	-	-	-	-	-	-	-	(79,425)
Disposals	出售	(859)	-	(22,104)	(180)	(38,074)	-	-	-	(61,217)
Disposal of subsidiaries	出售子公司	(267,009)	(89,262)	(296,773)	(32,602)	(322,232)	(42)	-	(65,708)	(1,073,628)
At 31 December 2021	於2021年12月31日	675,068	77,480	421,386	589,517	1,079,887	110,630	68,861	169,472	3,192,301
<b>Net book value:</b>	<b>賬面淨值：</b>									
At 31 December 2021	於2021年12月31日	1,042,675	66,035	206,385	548,503	579,104	113,805	710,933	428,728	3,696,168
At 31 December 2020	於2020年12月31日	1,573,860	121,452	251,781	766,706	814,895	113,760	326,188	663,078	4,631,720

# NOTES TO FINANCIAL STATEMENT (CONTINUED)

## 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 15. 物業、廠房及設備(續)

### 15. PROPERTY, PLANT AND EQUIPMENT (CONTINUED)

	Cost:	Technology and other assets										Total			
		Buildings and structures	Machinery and equipment	Motor vehicles	Furniture, fixtures and others	Buildings	Structures	General equipment	Special power equipment	Environmental protection equipment	Other industrial equipment		Construction in progress	Right-of-use assets	
		RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000
於2019年12月31日	於2019年12月31日	2,688,113	3,955,990	162,333	468,954	-	-	-	-	-	-	238,155	752,803	8,266,408	
重分類(附註(i))	重分類(附註(i))	(2,688,113)	(3,955,990)	(162,333)	(468,954)	2,461,184	289,472	2,114,188	1,302,863	2,114,188	224,158	-	-	-	
於2020年1月1日	於2020年1月1日	-	-	-	-	2,461,184	289,472	2,114,188	1,302,863	2,114,188	224,158	238,155	752,803	8,266,408	
增加	增加	-	-	-	-	11,931	1,452	12,355	1,235	121,530	274	381,475	80,244	650,503	
在建工程轉入	在建工程轉入	-	-	-	-	58,928	11,443	43,512	21,632	43,512	-	(186,685)	-	-	
出售	出售	-	-	-	-	(70)	(70)	(94,997)	-	(94,997)	-	-	-	(143,216)	
其他調整	其他調整	-	-	-	-	(10,795)	-	(44,414)	(77)	(44,414)	-	(73,356)	-	(128,648)	
於2020年12月31日	於2020年12月31日	-	-	-	-	2,521,248	292,297	2,139,919	1,325,673	2,139,919	224,432	359,589	833,047	8,645,047	
累計折舊及減值	累計折舊及減值	-	-	-	-	-	-	-	-	-	-	-	-	-	
於2019年12月31日	於2019年12月31日	1,028,244	2,044,868	140,653	335,515	-	-	-	-	-	-	37,862	92,876	3,680,018	
重分類(附註(i))	重分類(附註(i))	(1,028,244)	(2,044,868)	(140,653)	(335,515)	845,458	153,995	1,259,880	497,348	1,259,880	98,128	-	-	-	
於2020年1月1日	於2020年1月1日	-	-	-	-	845,458	153,995	1,259,880	497,348	1,259,880	98,128	37,862	92,876	3,680,018	
本年度折舊費	本年折舊費	-	-	-	-	97,469	6,574	107,352	52,232	107,352	12,425	-	77,093	404,472	
減值損失(附註(i))	減值損失(附註(i))	-	-	-	-	4,461	280	45,838	9,367	45,838	119	(4,461)	-	56,046	
因出售而撥回	因出售而撥回	-	-	-	-	(4)	(4)	(88,166)	-	(88,166)	-	-	-	(127,209)	
於2020年12月31日	於2020年12月31日	-	-	-	-	947,388	160,845	1,324,924	558,967	1,324,924	110,672	33,401	169,969	4,013,327	
賬面淨值	賬面淨值	-	-	-	-	1,573,860	121,452	814,995	766,706	814,995	113,760	326,188	663,078	4,631,720	
於2020年12月31日	於2020年12月31日	-	-	-	-	1,573,860	121,452	814,995	766,706	814,995	113,760	326,188	663,078	4,631,720	
於2019年12月31日	於2019年12月31日	-	-	-	-	1,615,726	115,477	854,308	805,515	854,308	126,030	200,293	659,927	4,586,350	

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 15. PROPERTY, PLANT AND EQUIPMENT (CONTINUED) 15. 物業、廠房及設備(續)

Notes:

- (i) The Group's buildings and structures are located in Mainland China.
- (ii) For the year ended 31 December 2021, the project of the subsidiary named Puyang Guodian Longyuan Water Treatment Co.,Ltd. was aborted due to the changes in local environment. The management assessed the recoverable amounts of the construction in process on the basis of fair value less cost of disposal. Accordingly, impairment provision of RMB35,460,000 was made on construction in process.

Besides, impairment provision of RMB6,317,000 (2020: RMB56,046,000) was made on environmental protection equipment of three subsidiaries (2020: three) from the Group's environmental protection segment, since these environmental protection equipment were out of service or idle. As a result, management provided a full impairment provision of RMB6,317,000, considered that these assets were customised and would not have further value in use.

- (iii) According to the approval of the board of directors of the Company during the first meeting of the third session in 2020, the Group adjusted the expected useful life and the expected residual value rate of property, plant and equipment to ensure that the adjusted expected useful life and expected residual value rate meet the estimates on the future economic benefits by considering actual useful life of these assets accordingly. Besides, the Group also reclassified its property, plant and equipment from four categories to six categories in order to achieve better physical management. The new classification, expected useful life and the expected residual value rate came into effect from 1 January 2020. Management adopts prospective application for the changes in accounting estimates.

附註：

- (i) 本集團的樓宇及建築物均位於中國大陸。
- (ii) 截至2021年12月31日止年度，因當地環境變化，附屬公司濮陽國電龍源水務有限公司的中水項目已中止。管理層根據公允價值減去處置成本評估了該項目的可收回金額。因此，對在建工程計提減值準備金人民幣35,460,000元。

此外，由於本集團環保分部三家附屬公司(2020年：3家)環保設備已停用或閒置，計提減值準備金人民幣6,317,000元(2020年：人民幣56,046,000元)。因此，管理層全額計提減值準備人民幣6,317,000元，原因是這些資產是定制的，不會有進一步的使用價值。

- (iii) 經2020年第三屆第一次董事會決定，本集團對物業、廠房及設備的適用年限、殘值率進行變更，以確保調整後的預期使用年限及預期殘值率更符合相關固定資產預計為公司帶來經濟利益的期限。此外，本集團為了更好的對物業、廠房及設備進行管理，將物業、廠房及設備的分類從四類變更為六類。新折舊年限、新預計使用年限及預計殘值率變更於二零二零年一月一日生效。管理層對本次會計估計變更採用未來適用法。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 15. PROPERTY, PLANT AND EQUIPMENT (CONTINUED)      15. 物業、廠房及設備(續)

Notes: (Continued)

附註：(續)

(iv) Right-of-use assets

(iv) 使用權資產

The Group reclassified the land included in buildings and structures to right-of-use assets upon the adoption of IFRS 16 and selected to present the right-of-use assets in property, plant and equipment. The carrying amounts of the Group's right-of-use assets and the movements during the year are as follows:

本集團採用《國際財務報告準則》第16號，將樓宇及建築物包含的土地重分類至使用權資產並在物業、廠房及設備披露使用權資產。本年，使用權資產的賬面價值及變動情況如下：

		Leasehold land 土地租賃 RMB'000 人民幣千元	Buildings and structures 樓宇及建築物 RMB'000 人民幣千元	Motor vehicles 汽車 RMB'000 人民幣千元	Other equipment 其他設備 RMB'000 人民幣千元	Total 總計 RMB'000 人民幣千元
As at 1 January 2020	於2020年1月1日	568,067	90,384	1,434	42	659,927
Additions	增加	11,835	22,305	46,033	71	80,244
Depreciation charge	本年度折舊費	(17,417)	(32,241)	(27,392)	(43)	(77,093)
As at 31 December 2020 and 1 January 2021	於2020年12月31日和 2021年1月1日	562,485	80,448	20,075	70	663,078
Additions	增加	9,888	54,850	1,021	-	65,759
Transfer from investment properties (Note 16)	投資性物業轉入(附註16)	1,119	-	-	-	1,119
Disposals	處置	(222,328)	(10,208)	(5,265)	(35)	(237,836)
Depreciation charge	本年度折舊費	(14,359)	(33,654)	(15,344)	(35)	(63,392)
As at 31 December 2021	於2021年12月31日	336,805	91,436	487	-	428,728

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 16. INVESTMENT PROPERTIES

### 16. 投資性物業

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
<b>Cost:</b>	<b>成本：</b>		
At 1 January	於1月1日	<b>322,802</b>	322,802
Transfer from property, plant and equipment	轉入自物業、廠房及設備	<b>268,841</b>	–
Transfer to property, plant and equipment	轉出至物業、廠房及設備	<b>(18,410)</b>	–
At 31 December	於12月31日	<b>573,233</b>	322,802
<b>Accumulated depreciation:</b>	<b>累計折舊：</b>		
At 1 January	於1月1日	<b>113,301</b>	104,597
Depreciation charge for the year	本年度折舊費	<b>9,644</b>	8,704
Transfer from property, plant and equipment	轉入自物業、廠房及設備	<b>79,425</b>	–
Transfer to property, plant and equipment	轉出至物業、廠房及設備	<b>(14,714)</b>	–
At 31 December	於12月31日	<b>187,656</b>	113,301
<b>Net book value</b>	<b>賬面淨值</b>	<b>385,577</b>	209,501

All the investment properties owned by the Group are located in Mainland China.

本集團所有的投資性物業均位於中國大陸。

#### (a) Investment properties leased out under operating lease

The Group's investment properties consist of commercial and residential properties in Mainland China. The investment properties are leased out under operating leases, and the leases typically run for an initial period of 1 to 10 years, with an option to renew the lease after that date at which time all terms are re-negotiated. Lease payments are usually adjusted upon the expiry of lease terms to reflect market rentals. None of the leases includes contingent rentals. Some lease contracts could be cancelled by mutual agreement between the Group and the lessees. Rental income recognised by the Group during the year was RMB33,750,000 (2020: RMB31,434,000).

#### (a) 根據經營租賃出租的投資性物業

本集團租賃的投資性物業包括中國大陸的商業及住宅物業。投資物業以經營租賃方式出租，一般初始租賃期均為1-10年，到期之後可以續租，屆時雙方將就所有租賃條款重新談判。到期之後一般根據市場租金進行調整。所有租金合同均不存在或有租金。部分合同雙方協商一致即可解除。本年度集團共確認租賃收入人民幣33,750,000元(2020：人民幣31,434,000元)。



## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 16. INVESTMENT PROPERTIES (CONTINUED)

#### (a) Investment properties leased out under operating lease (Continued)

The Group's total future minimum lease payments under non-cancellable operating leases are receivable as follows:

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
Within 1 year	1年內	21,522	25,631
After 1 year	1年以上	16,876	15,722
		<b>38,398</b>	41,353

#### (b) Fair value of investment properties

##### (i) Fair value hierarchy

The following table presents the fair value of the Group's investment properties measured at the end of the reporting period on a recurring basis for disclosure purposes, categorised into the three-level fair value hierarchy as defined in IFRS 13 Fair Value Measurement. The level into which a fair value measurement is classified is determined with reference to the observability and significance of the inputs used in the valuation techniques as follows:

- Level 1 valuations: Fair value measured using only Level 1 inputs i.e. unadjusted quoted prices in active markets for identical assets or liabilities at the measurement date
- Level 2 valuations: Fair value measured using Level 2 inputs i.e. observable inputs which fail to meet Level 1, and not using significant unobservable inputs. Unobservable inputs are inputs for which market data are not available

### 16. 投資性物業(續)

#### (a) 根據經營租賃出租的投資性物業 (續)

在不可解除的經營租賃項下，本集團未來應收的最低租賃付款總額如下：

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
Within 1 year	1年內	21,522	25,631
After 1 year	1年以上	16,876	15,722
		<b>38,398</b>	41,353

#### (b) 投資性物業公允價值

##### (i) 公允價值等級

下表提供了本集團於報告期末為披露目的重複計量的投資性物業的公允價值，並按《國際財務報告準則第13號》「公允價值計量」中所定義分為三個公允價值層級。公允價值計量層級是根據評估方法中使用的輸入數據的可觀察性和重要性來確定劃分的，具體如下：

- 第1層級估值：僅使用1級輸入數據進行計量的公允價值，即計量之日相同資產或負債的活躍市場中未經調整的報價
- 第2層級估值：使用2級輸入數據進行計量的公允價值，即不符合1級要求且未使用不可觀察的重要輸入數據的可觀察輸入資料。不可觀察輸入數據是不存在市場數據的輸入資料

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 16. INVESTMENT PROPERTIES (CONTINUED)

#### (b) Fair value of investment properties (Continued)

##### (i) Fair value hierarchy (Continued)

- Level 3 valuations: Fair value measured using significant unobservable inputs

### 16. 投資性物業(續)

#### (b) 投資性物業公允價值(續)

##### (i) 公允價值等級(續)

- 第3層級估值：使用不可觀察的重要輸入數據進行計量的公允價值

		Fair value measurement as at 31 December 2021 categorised into 於2021年12月31日公允價值計量區分為：			
		Fair value at 31 December 2021 於2021年 12月31日 公允價值 RMB'000 人民幣千元	Level 1 第一等級 RMB'000 人民幣千元	Level 2 第二等級 RMB'000 人民幣千元	Level 3 第三等級 RMB'000 人民幣千元
<b>Recurring fair value measurements</b>	<b>重複的公允價值計量</b>				
Investment properties	投資性物業	1,122,949	–	1,122,949	–

		Fair value measurement as at 31 December 2020 categorised into 於2020年12月31日公允價值計量區分為：			
		Fair value at 31 December 2020 於2020年 12月31日 公允價值 RMB'000 人民幣千元	Level 1 第一等級 RMB'000 人民幣千元	Level 2 第二等級 RMB'000 人民幣千元	Level 3 第三等級 RMB'000 人民幣千元
<b>Recurring fair value measurements</b>	<b>重複的公允價值計量</b>				
Investment properties	投資性物業	935,790	–	935,790	–

##### (ii) Valuation techniques and inputs used in Level 2 fair value measurements

The fair value of investment properties is determined using the market comparison approach by reference to the recent sales price of comparable properties on a price per square metre basis using market data which is publicly available.

##### (ii) 在第2層級公允價值計量中採用的評估方法和輸入數據

投資性物業的公允價值是通過參考公開的市場資料中可比物業以每平方米價格為基礎之最近售價，按市場比較法來確定。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 17. LEASE

#### The Group as a lessee

The Group has lease contracts for various items of leased land, buildings and structures, motor vehicles and other equipment used in its operations. Leases of land generally have lease periods of 9 to 50 years. For some land lease contracts, lump sum payments were made upfront to acquire the leased land from the owners, and no ongoing payments will be made under the terms of these land leases. Leases of buildings and structures generally have lease terms between 2 months and 6 years, while motor vehicles generally have lease terms between 3 months and 3 years. Other equipment generally has lease terms of between 10 months and 3 years and/or is individually of low value. Generally, the Group is restricted from assigning and subleasing the leased assets outside the Group.

#### (a) Lease liabilities

The carrying amount of lease liabilities and the movements during the year are as follows:

		2021 租賃負債 RMB'000 人民幣千元	2020 租賃負債 RMB'000 人民幣千元
Carrying amount at 1 January	於1月1日賬面價值	<b>132,948</b>	128,855
New leases	本年新增租賃	<b>56,730</b>	68,372
Accretion of interest recognised during the year	本年確認的利息費用	<b>5,892</b>	7,046
Disposals of subsidiaries	處置子公司	<b>(7,235)</b>	-
Payments	支付	<b>(52,658)</b>	(71,325)
Carrying amount at 31 December	於12月31日賬面價值	<b>135,677</b>	132,948
Analysed into:	分類至：		
Current portion	流動負債	<b>39,793</b>	62,102
Non-current portion	非流動負債	<b>95,884</b>	70,846

As at 31 December 2021, part of the lease liabilities amounting to RMB22,480,000 (2020: RMB46,452,000) was derived from leases from the related parties under China Energy.

The maturity analysis of lease liabilities is disclosed in note 42 to the financial statements.

### 17. 租賃

#### 本集團作為承租人

本集團已就其經營使用而租賃的土地、樓宇及建築物、汽車和其他設備簽訂了租賃合同。土地的租賃期限為9至50年，部分已經根據合同條款預先向業主全額付款。樓宇及建築物的租賃期限一般為2個月至6年，汽車的租賃期限一般為3個月至3年，其他設備的租期一般為10個月至3年，且/或個別價值較低。一般來說，本集團租賃的資產被限制在本集團之外轉讓和轉租。

#### (a) 租賃負債

本年租賃負債的賬面價值變動如下：

於2021年12月31日，從國家能源集團內租賃確認的租賃負債金額為人民幣22,480,000元(2020：人民幣46,452,000元)。

租賃負債的到期日分析在財務報表附註42中披露。

## NOTES TO FINANCIAL STATEMENT (CONTINUED)

### 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

#### 17. LEASE (CONTINUED)

##### The Group as a lessee (Continued)

(b) The amounts recognised in profit or loss in relation to leases are as follows:

		2021	2020
		<i>RMB'000</i>	<i>RMB'000</i>
		人民幣千元	人民幣千元
Interest on lease liabilities	租賃負債利息支出	5,892	7,046
Depreciation charge for right-of-use assets	使用權資產攤銷	63,392	77,093
Expense relating to short-term leases	與短期租賃有關的費用	25,435	25,122
Expense relating to leases of low-value assets	與低價值資產租賃有關的費用	5,249	4,339
Total amount recognised in profit or loss	損益表裏確認的總金額	<b>99,968</b>	113,600

The total cash outflows for leases are disclosed in Note 29(c) and (d) to the financial statements.

#### 17. 租賃(續)

本集團作為承租人(續)

(b) 損益表裏確認的與租賃相關的金額如下：

租約的現金流出總額在財務報表附註29(c)和(d)中披露。

## NOTES TO FINANCIAL STATEMENT (CONTINUED)

### 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

#### 18. INTANGIBLE ASSETS

#### 18. 無形資產

		Concession assets 特許權資產 RMB'000 人民幣千元	Technical know-how 專業技術 RMB'000 人民幣千元	Development costs 開發成本 RMB'000 人民幣千元	Software and others 軟件及其他 RMB'000 人民幣千元	Total 總計 RMB'000 人民幣千元
<b>Cost:</b>	<b>成本：</b>					
At 1 January 2020	於2020年1月1日	741,531	89,221	463,486	134,389	1,428,627
Additions	增加	3,758	8,916	23,985	10,646	47,305
Disposals	出售	-	-	-	(7,583)	(7,583)
Reclassification	重分類	-	-	(2,863)	-	(2,863)
At 31 December 2020 and 1 January 2021	於2020年12月31日及 於2021年1月1日	<b>745,289</b>	<b>98,137</b>	<b>484,608</b>	<b>137,452</b>	<b>1,465,486</b>
Additions	增加	-	-	24,971	23,067	48,038
Disposals	出售	-	-	-	(5,715)	(5,715)
Disposal of subsidiaries	處置子公司	(575,983)	(15,724)	(383,608)	(44,124)	(1,019,439)
Reclassification	重分類	-	(1,882)	-	-	(1,882)
At 31 December 2021	於2021年12月31日	<b>169,306</b>	<b>80,531</b>	<b>125,971</b>	<b>110,680</b>	<b>486,488</b>
<b>Accumulated amortisation and impairment losses:</b>	<b>累計攤銷及減值損失：</b>					
At 1 January 2020	於2020年1月1日	227,164	59,206	216,160	61,904	564,434
Amortisation (Note (iii))	攤銷(附註(iii))	25,620	4,638	33,108	15,787	79,153
Disposals	出售	-	-	-	(2,163)	(2,163)
At 31 December 2020 and 1 January 2021	於2020年12月31日及 於2021年1月1日	<b>252,784</b>	<b>63,844</b>	<b>249,268</b>	<b>75,528</b>	<b>641,424</b>
Amortisation (Note (iii))	攤銷(附註(iii))	21,201	6,083	92,934	12,144	132,362
Disposals	出售	-	-	-	(2,026)	(2,026)
Disposal of subsidiaries	處置子公司	(204,960)	(12,713)	(324,860)	(30,452)	(572,985)
At 31 December 2021	於2021年12月31日	<b>69,025</b>	<b>57,214</b>	<b>17,342</b>	<b>55,194</b>	<b>198,775</b>
<b>Net book value:</b>	<b>賬面淨值：</b>					
At 31 December 2021	於2021年12月31日	<b>100,281</b>	<b>23,317</b>	<b>108,629</b>	<b>55,486</b>	<b>287,713</b>
At 31 December 2020	於2020年12月31日	492,505	34,293	235,340	61,924	824,062

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 18. INTANGIBLE ASSETS (CONTINUED)

Notes:

- (i) Concession assets represent the rights the Group received for the usage of the concession water treatment plants for the treatment of water. The concession assets are amortised over the operating period of the service concession projects.
- (ii) For the year ended 31 December 2021, one subsidiary (2020: one) from the Group's environmental protection segment was loss-making due to various market and economic factors. The Group assessed the recoverable amounts by using the value-in-use model. When determining the recoverable amounts based on value-in-use calculations, management prepared the calculations with cash flow projections covering the concession period. The cash flows are discounted using discount rate of 13.26% (2020: 10.1%). The discount rate used is pre-tax and reflects specific risks relating to the relevant cash-generating unit. The key assumption used for the value-in-use calculations is the revenue from the treated water sales. As a result, the recoverable amounts of the intangible assets are higher than the carrying amounts, and there are no impairment losses provided in the consolidated statement of profit or loss for the year then ended (2020: Nil).
- (iii) The amortisation charges of RMB28,250,000 (2020: RMB25,535,000) and RMB104,112,000 (2020: RMB53,618,000) are included in "cost of sales" and "administrative expenses" in the consolidated statement of profit or loss, respectively.

### 18. 無形資產(續)

附註：

- (i) 特許權資產指本集團享有的特許經營權，即污水處理的經營權。特許權資產在特許經營項目經營期間進行攤銷。
- (ii) 截至2021年12月31日，由於市場和經濟原因，本集團中屬於環保分部的一家子公司(2020年：一家)出現虧損。本集團通過使用價值模型來評估可回收金額。在根據使用價值模型計算確定可收回金額時，管理層在計算過程中對特許權期的現金流量進行了預測。現金流以13.26%(2020年：10.1%)的折現率折現。所使用的折現率為稅前折現率，並反映相關現金產出單元的特定風險。在使用價值計算中使用的關鍵假設是來自處理水銷售的收入。根據結果，無形資產的可收回金額高於賬面價值，本年無計入合併損益表中的減值損失(2020年：零)。
- (iii) 合併損益表中的「銷售成本」、「行政開支」項目下分別包括無形資產攤銷費用人民幣28,250,000元(2020：人民幣25,535,000元)，人民幣104,112,000元(2020：人民幣53,618,000元)。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 19. GOODWILL

### 19. 商譽

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
Cost	成本		
At 1 January	於1月1日	<b>57,591</b>	57,591
Disposal of subsidiary ( <i>Note 40(b)</i> )	處置子公司( <i>附注40(b)</i> )	<b>(52,287)</b>	-
At 31 December	於12月31日	<b>5,304</b>	57,591
Accumulated impairment	累積損失		
At 1 January 2020, 31 December 2020 and 31 December 2021	於2020年1月1日、2020年12月31日及2021年12月31日	-	-
Net Book value	賬面淨值	<b>5,304</b>	57,591

The lowest level within the Group at which goodwill is monitored for internal management purposes is the operating segment level. Therefore, goodwill is allocated to the Group's cash-generating units ("CGUs") according to operating segments.

The recoverable amounts of CGUs are determined based on value-in-use calculations. The calculation use cash flow projections based on financial budgets approved by management covering the remaining concession period or operating period between 2 and 12 years (2020: between 7 and 31 years) under which the concession rights was granted by the local governments. The cash flow is discounted using discount rates of 13.26% (2020: 9.2% to 12.5%). The discount rates used are pre-tax and reflect specific risks relating to the relevant CGUs. The key assumption used for the value-in-use calculation is the revenue from treated water sales. Management has determined the revenue from treated water sales based on its expectation of treated water volume and the price of water treatment approved by the related government authorities.

為內部管理目的而對商譽進行管控的集團內最低級別為經營分部級別。因此，商譽根據經營分部分配給本集團的現金產出單元 ("CGUs")。

現金產出單元的可收回數額乃按使用價值計算而確定。在地方政府授予特許權的剩餘經營期2至12年期間內(2020：7至31年)，根據經管理層批准的財務預算進行現金流量的預測。該現金流使用13.26%(2020：9.2%到12.5%)的貼現率進行貼現。使用稅前貼現率，反映了與該現金產出單元相關的特定風險。用於使用價值計算的關鍵假設是處理水的銷售收入。管理層根據對處理水量的預期和相關政府部門批准的水處理價格，確定了處理水的銷售收入。

## NOTES TO FINANCIAL STATEMENT (CONTINUED)

### 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

#### 20. INVESTMENTS IN SUBSIDIARIES

The following list contains only the particulars of subsidiaries as at 31 December 2021 which principally affected the results, assets or liabilities of the Group. To give details of other subsidiaries would, in the opinion of the directors, result in particulars of excessive length. All of the subsidiaries are limited liability companies.

#### 20. 對附屬公司的投資

於2021年12月31日，對本集團業績、資產或負債具有主要影響的附屬公司的詳情列舉如下。董事認為，提供其他子公司的詳細信息將導致篇幅過長。所有中國附屬公司均為有限責任公司。

Name of the company 公司名稱	Place of incorporation/ registration and business 成立/註冊和經營地	Issued and fully paid-up capital 已發行且全部繳足的資本	Proportion of ownership interest 所有者權益比例			Principal activities 主營業務
			Group's effective interest 本集團的 有效權益	Held by the Company 由本公司持有	Held by subsidiaries 附屬公司持有	
Guoneng Longyuan Environmental Co., Ltd. 國能龍源環保有限公司	The PRC 中國	RMB1,697,894,737 人民幣1,697,894,737	96%	96%	-	Provision of desulphurisation and other environmental protection engineering services 提供脫硫等環保工程服務
Bengbu Guoneng Longyuan Environmental Co., Ltd. 蚌埠國能龍源環保有限公司	The PRC 中國	RMB30,000,000 人民幣30,000,000	96%	-	100%	Operation of environmental protection facilities 環保設施的運營
Jiangsu Longyuan Catalyst Co., Ltd. 國能龍源催化劑江蘇有限公司	The PRC 中國	RMB62,000,000 人民幣62,000,000	96%	-	100%	Production and sale of selective catalytic reduction catalyst 選擇性催化還原催化劑的生產和銷售
Guoneng Longyuan Environmental Nanjing Co., Ltd. 國能龍源環保南京有限公司	The PRC 中國	RMB275,000,000 人民幣275,000,000	57.6%	-	60%	Provision of environmental protection engineering services 提供環保工程服務
Puyang Guodian Longyuan Water Treatment Co., Ltd. 濮陽國電龍源水務有限公司	The PRC 中國	RMB10,000,000 人民幣10,000,000	67.2%	-	70%	Operation of water treatment projects 水處理工程運營
Guoneng Longyuan Boqi Environmental Technology (Hanchuan) Co., Ltd. 國能龍源博奇環保科技(漢川)有限公司	The PRC 中國	RMB110,000,000 人民幣110,000,000	67.2%	-	70%	Operation of environmental protection facilities 環保設施的運營
CHN Energy Technology & Environment (HK) Limited (Note(i)) CHN Energy Technology & Environment (HK) Limited (附註(i))	Hong Kong 香港	RMB17,739,000 人民幣17,739,000	100%	100%	-	International trade 國際貿易



## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 20. INVESTMENTS IN SUBSIDIARIES (CONTINUED)

### 20. 對附屬公司的投資(續)

Name of the company 公司名稱	Place of incorporation/ registration and business 成立/註冊和經營地	Issued and fully paid-up capital 已發行且全部繳足的資本	Proportion of ownership interest 所有者權益比例			Principal activities 主營業務
			Group's effective interest 本集團的 有效權益	Held by the Company 由本公司持有	Held by subsidiaries 附屬公司持有	
Guoneng Lucency Environment and Technology Co., Ltd. 國能朗新明環保科技有限公司	The PRC 中國	RMB500,000,000 人民幣500,000,000	100%	100%	-	Construction and operation of water treatment projects 水處理項目的施工與經營
Dalian Delang Water Treatment Co., Ltd. 大連德朗水務有限公司	The PRC 中國	RMB20,000,000 人民幣20,000,000	51%	-	51%	Operation of water treatment projects 水處理項目的經營
Shanxi Xinyuan Environment Protection Resource Development Co., Ltd. 山西新源環保資源開發有限責任公司	The PRC 中國	RMB13,000,000 人民幣13,000,000	51%	-	51%	Construction and operation of water treatment projects 水處理項目的施工與經營
Dalian Economic and Technical Development Zone Drain Management Co., Ltd. (Note (ii)) 大連經濟技術開發區排水管理有限公司(附註(ii))	The PRC 中國	RMB53,442,000 人民幣53,442,000	50%	-	50%	Construction and operation of water treatment projects 水處理項目的施工與經營
Guoneng Longyuan Power Technology and Engineering Co., Ltd. 國能龍源電力技術工程有限責任公司	The PRC 中國	RMB244,727,000 人民幣244,727,000	100%	100%	-	Provision of energy conservation engineering services 提供節能工程服務
Guoneng Longyuan Lantian Energy Saving Technology Co., Ltd. 國能龍源藍天節能技術有限公司	The PRC 中國	RMB308,000,000 人民幣308,000,000	100%	100%	-	Provision of energy conservation engineering services 提供節能工程服務
Beijing Guoneng Longwei Power Generation Technology Co., Ltd. 北京國能龍威發電技術有限公司	The PRC 中國	RMB40,000,000 人民幣40,000,000	60%	-	60%	Production and sale of steam turbines 汽輪機的生產與銷售
Yantai Longyuan Power Technology Co., Ltd. (Note (ii)) 煙臺龍源電力技術股份有限公司(附註(ii))	The PRC 中國	RMB513,216,000 人民幣513,216,000	22.84%	22.84%	-	Production and sale of thermal energy equipment 熱能設備的生產與銷售
Guoneng I&C Interconnection Technology Co., Ltd. 國能信控互聯技術有限公司	The PRC 中國	RMB230,732,267 人民幣230,732,267	46%	46%	-	Production and sale of variable-pitch control system for wind turbines 風力發電機組變漿控制系統

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 20. INVESTMENTS IN SUBSIDIARIES (CONTINUED)

### 20. 對附屬公司的投資(續)

Name of the company 公司名稱	Place of incorporation/ registration and business 成立/註冊和經營地	Issued and fully paid-up capital 已發行且全部繳足的資本	Proportion of ownership interest 所有者權益比例			Principal activities 主營業務
			Group's effective interest 本集團的 有效權益	Held by the Company 由本公司持有	Held by subsidiaries 附屬公司持有	
Guoneng Longyuan Electrical Co., Ltd. 國能龍源電氣有限公司	The PRC 中國	RMB232,932,900 人民幣232,932,900	100%	100%	-	Production and sale of wind turbine components 風力機的生產與銷售
Guoneng Zhishen Control Technology Co., Ltd. 國能智深控制技術有限公司	The PRC 中國	RMB120,000,000 人民幣120,000,000	53.15%	53.15%	-	Production and sale of electric power related products 電力及相關產品的生產及銷售
Beijing Guodian Technology New Energy and Technology Co., Ltd. 北京國電科環新能源科技有限公司	The PRC 中國	RMB1,000,000 人民幣1,000,000	100%	100%	-	Research and development of technology 技術研發
Baoding Longyuan Electrical Co., Ltd. 保定龍源電氣有限公司	The PRC 中國	RMB30,000,000 人民幣30,000,000	100%	-	100%	Development, production and processing of power electronic instruments 電力電子儀器的開發、生產和加工
Guoneng I&C Interconnection Technology (Hebei) Co., Ltd. 國能信控互聯技術(河北)有限公司	The PRC 中國	RMB175,400,000 人民幣175,400,000	46%	-	100%	Production and sale of variable-pitch control system for wind turbines 風力發電機組變槳距控制系統的生產和銷售
Guoneng Technology and Environment Wangkui New Energy Co., Ltd. 國能科環望奎新能源有限公司	The PRC 中國	RMB210,000,000 人民幣210,000,000	100%	65%	35%	Operation and service of environmental protection facilities; water pollution control 環保設施的運營和服務；水污染控制

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 20. INVESTMENTS IN SUBSIDIARIES (CONTINUED)

Notes:

- (i) Except for CHN Technology & Environment (HK) Limited, the English translation of the names of other entities is for identification only. The official names of these entities are in Chinese.
- (ii) The Company's voting power in Dalian Economic and Technical Development Zone Drain Management Co., Ltd. ("**Dalian Drain**") attaching to the equity interests does not allow the Company to have the rights to variable returns from its involvement with this entity and to have the ability to affect those returns through its power over this entity according to the articles of association of Dalian Drain. Historically, the Company controlled Dalian Drain by appointing senior management, approving the annual budget, determining the remuneration of employees, etc. The subsidiary of the Company, Guoneng Lucency Environment and Technology Co., Ltd. ("**Lucency**"), had signed the concert party agreement with another equity holder of Dalian Drain, whereby the equity holder has agreed to vote for the same as Lucency.

The Company is the largest equity owner of Yantai Longyuan Power Technology Co., Ltd. ("**Longyuan Technology**") and no other equity owners individually or in the aggregate had the power to control Longyuan Technology according to the articles of association. The Company controlled the operation of Longyuan Technology by appointing senior management, approving the annual budget, determining the remuneration of employees, etc. The Company has agreements with certain shareholders of this company, whereby such equity owners have agreed to vote in concert with the Company since the establishment of the company. As stated in note 39(a), the share of the interest held by the Company in Longyuan Technology was diluted from 23.25% to 22.84%.

### 20. 對附屬公司的投資(續)

附註：

- (i) 除 China Energy Technology & Environment (HK) Limited 的英文名稱之外，其餘英文名稱僅用於識別之用，該等公司的正式名稱為中文名稱。
- (ii) 根據大連經濟技術開發區排水管理有限公司(以下簡稱「**大連排水**」)的公司章程，本公司在大連排水的股權附帶的投票權不允許本公司有權享有其參與業務產生的可變回報，也不能通過其對大連排水的權力而影響該等回報。以往，本公司通過任命高級管理人員，批准年度預算，確定員工薪酬等方式控制大連排水的經營。本公司的子公司國能朗新明環保科技有限公司(「**朗新明**」)已與大連排水的另一名股東達成一致行動黨協定，其中另一名股東已同意與朗新明作相同投票。

本公司為煙臺龍源電力技術有限公司(「**龍源技術**」)的最大股權擁有人，根據其公司章程的規定，概無其他個別或整體股權擁有人有權控制龍源技術。本公司自該公司成立即通過聘任高級管理人員，批准年度預算，確定職工薪酬等方式控制龍源技術的經營。自該公司成立以來，本公司與該公司的另一名股東簽訂了協定，根據協定約定，該股東同意與本公司作相同投票。如附註39(a)所述，本公司持有龍源技術的權益份額由23.25%攤薄至22.84%。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 20. INVESTMENTS IN SUBSIDIARIES (CONTINUED)

Notes: (Continued)

The Company is the largest equity owner of Guoneng I&C Interconnection Technology Co., Ltd. (“**Guoneng I&C**”) and controlled the operation of Guoneng I&C by appointing senior management, approving the annual budget, determining the remuneration of employees, etc. The Company has agreements with the Employees’ Shareholding Platforms of this company, whereby such equity owners have agreed to vote in concert with the Company since the establishment of the company.

The PRC lawyer of the Company confirmed that these agreements are valid under relevant PRC laws. Considering the above-mentioned factors, the directors are of the opinion that the Company controlled Dalian Drain, Longyuan Technology and Guoneng I&C.

- (iii) The following table lists out the information relating to subsidiaries of the Group which have material non-controlling interests (“**NCI**”). The summarised financial information below presents the amounts before any inter-company elimination.

### 20. 對附屬公司的投資(續)

附註：(續)

本公司為國能信控互聯技術有限公司(「**國能信控**」)的最大股權擁有人，本公司通過聘任高級管理人員，批准年度預算，確定職工薪酬等方式控制國能信控的經營。本公司與兩家員工持股平臺簽訂了協定，根據協定約定，員工持股平臺同意與本公司作相同投票。

本公司的中國律師認為，根據相關的中國法律，這些協議有效。考慮到上述因素，董事認為本公司控制大連排水，龍源技術和國能信控。

- (iii) 下表對本集團重大非控股權益的附屬公司相關信息進行了列明。下表列明的概要財務信息為公司間賬項抵銷前的金額。

## NOTES TO FINANCIAL STATEMENT (CONTINUED)

### 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

#### 20. INVESTMENTS IN SUBSIDIARIES (CONTINUED)

#### 20. 對附屬公司的投資(續)

		Yantai Longyuan Power Technology Co., Ltd. (Note) 烟臺龍源電力技術股份 有限公司(附註)		Guoneng Longyuan Boqi Environmental Technology (Hanchuan) Co., Ltd. 國能龍源博奇環保科技(漢川) 有限公司	
		2021 RMB'000 人民幣千元	2020 RMB'000 人民幣千元	2021 RMB'000 人民幣千元	2020 RMB'000 人民幣千元
NCI percentage	非控股權益比例	77.16%	76.75%	30.00%	30.00%
Current assets	流動資產	2,032,823	2,046,355	96,607	102,381
Non-current assets	非流動資產	352,523	207,904	231,360	245,674
Current liabilities	流動負債	(519,495)	(376,259)	(44,675)	(98,439)
Non-current liabilities	非流動負債	(45,632)	(12,783)	-	-
Net assets	資產淨額	1,820,219	1,865,217	283,292	249,616
Carrying amount of NCI	非控股權益賬面金額	1,396,813	1,431,554	84,988	74,885
Revenue	收入	541,723	446,441	245,807	217,757
Profit and total comprehensive income for the year	本年度利潤與綜合收益總額	6,314	10,203	92,253	75,569
Profit allocated to NCI	分配予非控股權益的利潤	4,846	7,831	27,676	22,671
Dividend paid to NCI	支付予非控股權益的股息	39,587	78,775	17,573	32,272
Cash inflows from operating activities	經營活動的現金流入	54,454	22,512	135,723	84,413
(Cash outflows)/inflows from investing activities	投資活動的現金(流出)/流入	(20,098)	130,380	(36,219)	(36,584)
Cash outflows from financing activities	融資活動的現金流出	(17,583)	(102,639)	(71,577)	(107,573)

Note:

The summarised financial information presents consolidated financial information of Longyuan Technology.

附註：

以上財務信息包含了龍源技術的合併財務信息。

## NOTES TO FINANCIAL STATEMENT (CONTINUED)

### 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

#### 21. INTERESTS IN ASSOCIATES

#### 21. 對聯營公司的投資

		2021 RMB'000 人民幣千元	2020 RMB'000 人民幣千元
Share of net assets	應佔資產淨值	1,123,944	484,699
		<b>1,123,944</b>	<b>484,699</b>

The following list contains only the particulars of material associates, all of which are unlisted corporate entities whose quoted market price is not available and are established in the PRC, which principally affected the results or assets of the Group as at 31 December 2021.

下表僅列出了對本集團2021年12月31日的業績或資產具有主要影響的重大聯營公司的詳情，所有這些公司均為沒有市場報價的未掛牌上市公司，並成立於中國：

Name of the company (Note (i))	Place of incorporation/ registration and business	Issued and fully paid-up capital	Proportion of ownership interest			Principal activities
			Group's effective interest	Held by the Company	Held by subsidiaries	
公司名稱 (附註(i))	成立地	已發行且全部繳足的資本	集團的有效權益	由本公司持有	附屬公司持有	主營業務
Guizhou Longyuan Wengfu Environment Technology Co., Ltd. ("Guizhou Longyuan") (Note (ii)) 貴州龍源寧福環保科技有限公司 (附註(ii))	The PRC 中國	RMB250,000,000 人民幣250,000,000	55%	-	55%	Operation of environmental protection facilities 環保設施運行
Guoneng Longyuan Environmental Taizhou Co., Ltd. ("Longyuan Taizhou") 國能龍源環保泰州有限公司 (附註(ii))	The PRC 中國	RMB265,000,000 人民幣265,000,000	45%	-	45%	Operation of environmental protection facilities 環保設施運行
Guodian United Power Technology Co., Ltd. ("United Power") (Note (iii)) 國電聯合動力技術有限公司 (附註(iii))	The PRC 中國	RMB3,870,000,000 人民幣3,870,000,000	30%	30%	-	Research and development and sale of wind turbines 風機產品的研發與銷售

Notes:

- (i) The English translation of the names is for identification only. The official names of these entities are in Chinese.
- (ii) According to the articles of association of Guizhou Longyuan, the resolutions in relation to material financial and operating decisions have to be passed by three-fourth of directors. As the Group has only the rights to appoint less than three-fourth of directors of Guizhou Longyuan, the Group does not have power to control the financial and operating policies of Guizhou Longyuan though the Group owns more than half of the equity interests and voting power in Guizhou Longyuan.
- (iii) As disclosed in Note 40, United Power became the associate from subsidiary from 11 October 2021.

附註：

- (i) 英文名稱僅用於識別之用，這些公司的正式名稱均為中文名稱。
- (ii) 根據貴州龍源的公司章程，有關重大財務和經營決策的決議必須由四分之三的董事通過。雖然本集團擁有貴州龍源一半以上股權和表決權，但由於本集團僅有權委任貴州龍源不足四分之三的董事，故本集團對貴州龍源重大財務和經營政策無控制權。
- (iii) 聯合動力自2021年10月11日起由子公司成為聯營企業，披露詳見附註40。

## NOTES TO FINANCIAL STATEMENT (CONTINUED)

### 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

#### 21. INTERESTS IN ASSOCIATES (CONTINUED)

Summarised financial information of the material associates, adjusted for any differences in accounting policies and reconciled to the carrying amounts in the consolidated financial statements, is disclosed below:

#### 21. 對聯營公司的投資(續)

重大聯營公司的概要財務信息，已因應會計政策的差異進行了調整，並調節至合併財務報表的賬面金額披露如下：

		Guizhou Longyuan Wengfu Environment Technology Co., Ltd. 貴州龍源鑫福環保科技 有限公司		Guoneng Longyuan Environmental Taizhou Co., Ltd. 國能龍源環保泰州 有限公司		Guodian United Power Technology Co., Ltd. 國電聯合動力 技術有限公司
		2021 RMB'000 人民幣千元	2020 RMB'000 人民幣千元	2021 RMB'000 人民幣千元	2020 RMB'000 人民幣千元	2021 RMB'000 人民幣千元
Gross amounts of the associates:	聯營公司總額：					
Current assets	流動資產	181,639	191,781	244,133	243,577	9,230,087
Non-current assets	非流動資產	60,021	60,021	439,188	465,033	3,060,263
Current liabilities	流動負債	(1,554,598)	(1,554,412)	(125,473)	(201,528)	(8,961,573)
Non-current liabilities	非流動負債	-	-	-	-	(1,146,219)
Equity	權益	(1,312,938)	(1,302,610)	557,848	507,082	2,182,558
Revenue for the year/period	收入	-	10,323	463,057	472,753	2,977,535
(Loss)/profit and total comprehensive income for the year/period	本年度(虧損)/利潤與綜合收益總額	(10,329)	(2,521)	200,204	166,042	(274,910)
Dividend received from the associates	已收聯營公司之股息	-	-	67,247	54,430	-
Reconciled to the Group's interests in the associates:	調節至本集團對聯營公司的投資：					
Gross amounts of net (liabilities)/assets of the associates	聯營公司淨(負債)/淨資產總額	(1,312,938)	(1,302,610)	557,848	507,082	2,182,558
Group's effective interest	本集團實際權益	55%	55%	45%	45%	30%
Group's share of net (liabilities)/assets of the associates	本集團應佔聯營公司淨(負債)/淨資產	(722,116)	(716,436)	251,032	228,187	654,768
Unrecognised share of losses	未確認的虧損	722,116	716,436	-	-	-
Unrealised profits of associates	順流交易未實現利潤的抵銷	-	-	-	-	(3,412)
Carrying amount in the consolidated financial statements	於合併財務報表的賬面金額	-	-	251,032	228,187	651,356

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 21. INTERESTS IN ASSOCIATES (CONTINUED)

Aggregate information of associates that are not individually material is as follows:

### 21. 對聯營公司的投資(續)

個別非重大聯營公司合計金額信息如下所示：

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
Aggregate carrying amount of individually immaterial associates in the consolidated financial statements	在合併財務報表中個別非重大聯營公司的合計賬面金額	<b>221,556</b>	256,512
Aggregate amounts of the Group's share of profits less losses of those associates and total comprehensive income	本集團應佔此等聯營公司的虧損及其他綜合收益金額合計	<b>(26,154)</b>	(2,388)

One associate of the Group is loss-making and the Group's share of the accumulated losses of this associate has exceeded its interest in the associate. In accordance with the accounting policy set out in Note 2(e), the Group discontinued to recognise its share of losses of the associates. The unrecognised share of losses of associates for the current year of RMB5,681,000 (2020: RMB1,387,000) equals or exceeds its interest in the associates. The accumulated unrecognised share of losses of associates as at the end of the reporting period was RMB876,156,000 (2020: RMB870,475,000).

本集團一家聯營公司目前處於虧損狀態，本集團應佔該聯營公司的累積虧損已超過本集團對該聯營公司的投資。根據附註2(e)中列明的會計政策，本集團已不再確認其在該聯營公司中的虧損份額。本年度對該聯營公司的未確認虧損份額超過或等於對該聯營公司的投資的金額為人民幣5,681,000元(2020年：人民幣1,387,000元)。於報告期末累計對該聯營公司的未確認虧損份額為人民幣876,156,000元(2020年：人民幣870,475,000元)。



## NOTES TO FINANCIAL STATEMENT (CONTINUED)

### 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

#### 22. OTHER EQUITY INVESTMENTS

#### 22. 其他權益投資

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
<b>Equity securities designated at FVOCI (non-recycling) (Note (i))</b>	<b>使用公允價值計量且其變動計入其他綜合收益的權益證券投資(不重新計入)(附註(i))</b>		
Listed equity securities	上市權益證券	<b>2,100,038</b>	1,970,244
Unlisted equity securities	非上市權益證券	<b>189,674</b>	257,429
		<b>2,289,712</b>	2,227,673

Note:

- (i) The Group designated its investments as equity securities at FVOCI (non-recycling) as the investments are held for strategic purposes.

附註：

- (i) 因其投資乃策略性持有，本集團指定其權益性投資使用公允價值計量且其變動計入其他綜合收益(不重新計入)。

#### 23. OTHER NON-CURRENT ASSETS

#### 23. 其他非流動資產

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
Long-term trade receivables due from: (Note (i))	長期應收賬款(附註(i))		
– related parties under China Energy	– 國家能源集團下屬關聯方	<b>3,499</b>	36,641
– third parties	– 第三方	<b>61,477</b>	–
Long-term service concession receivables due from third parties (Note (ii), (v))	應收第三方服務特許權長期應收款項(附註(ii)、(v))	<b>156,930</b>	700,970
Less: Loss allowance	減：壞賬準備	<b>(1,641)</b>	(4,473)
		<b>220,265</b>	733,138
Advance to third parties	長期應收第三方款項	<b>14,396</b>	161,991
Less: Loss allowance	減：壞賬準備	<b>(14,396)</b>	(14,926)
		–	147,065
Contract assets (Notes (iii), (v))	合同資產(附註(iii)、(v))	<b>778,231</b>	3,012,197
Long-term prepayments	長期預付款	<b>21,397</b>	17,131
Deductible VAT (Note (iv))	可抵扣增值稅(附註(iv))	<b>105,282</b>	185,345
		<b>1,125,175</b>	4,094,876

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 23. OTHER NON-CURRENT ASSETS (CONTINUED)

Notes:

- (i) Long-term trade receivables represent trade receivables of certain construction contracts which are repayable by instalments over a period of 3 to 8 years.
- (ii) Long-term service concession receivables due from third parties represent the amounts contractually and unconditionally receivables in connection with construction services under concession arrangements (Note 46).
- (iii) Contract assets represent the retentions of sales of industrial products and provision of construction services which will be received one year in line with the retention period ends and the consideration for construction services during the construction or upgrade period under the service concession arrangement, which will be reclassified to long-term receivables after the construction service satisfied.
- (iv) Deductible VAT represents the input VAT in excess of output VAT. Input VAT is recognised for the purchase of manufacturing raw materials and components and acquisitions of machinery and equipment used for operation. Input VAT will be deductible from output VAT payable for goods to be sold in subsequent years.
- (v) As at 31 December 2021, long-term service concession receivables of the Group amounting to nil (2020: RMB477,347,000) and contract assets of the Group amounting to nil (2020: Nil) were pledged as collateral for bank loans.

### 23. 其他非流動資產(續)

附註：

- (i) 長期應收賬款指在3-8年期內分期償付的若干建造合同項下的應收賬款。
- (ii) 應收第三方服務特許權長期應收款項指與特許經營安排下的建造服務相關之約定及無條件應收款項(附註46)。
- (iii) 合同資產代表隨著產品銷售及建造服務的質保期結束、將在一年以後收到的質保金，以及根據服務特許安排在建造或改造期提供的建築服務對價，該對價在建築服務完成後將重分類至長期應收款。
- (iv) 可抵扣增值稅指進項增值稅超過銷項增值稅的部分。進項增值稅於購買生產用原材料和部件以及購買經營用機器及設備時確認。進項增值稅可從後續年度出售貨物應支付的銷項增值稅中抵扣。
- (v) 於2021年12月31日，本集團的服務特許權長期應收款項約為人民幣零元(2020：人民幣477,347,000元)及合同資產約人民幣零元(2020：人民幣零元)作為銀行借款的抵押物。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 23. OTHER NON-CURRENT ASSETS (CONTINUED)

### 23. 其他非流動資產(續)

#### (a) Ageing analysis

As of the end of the reporting period, the ageing analysis of long-term trade receivables and long-term service concession receivables, based on the invoice date (or date of revenue recognition, if earlier) and net of loss allowances, is as follows:

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
Within 1 year	1年以內	61,477	9,733
Over 3 years	3年以上	158,788	723,405
		<b>220,265</b>	733,138

#### (a) 賬齡分析

於報告期末，本集團基於開立發票日期(或收入確認日，兩者孰早)的長期應收賬款及服務特許權長期應收款項(扣除壞賬撥備)的賬齡分析如下：

#### (b) Movement in the loss allowance account

Movement in the loss allowance account in respect of long-term trade receivables and long-term service concession receivables during the year is as follows:

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
Balance at 1 January	於1月1日結餘	(4,473)	(4,473)
Disposal of subsidiaries	處置子公司	2,832	-
Balance at 31 December	於12月31日結餘	<b>(1,641)</b>	(4,473)

#### (b) 壞賬損失變動

本年長期應收賬款及長期服務特許權應收款項的壞賬損失變動如下：

For the above long-term trade receivables and long-term service concession receivables, an impairment analysis is performed at each reporting date by considering the probability of default by applying a loss rate approach with reference to the historical loss record of the Group. The loss rate is adjusted to reflect the current conditions and forecasts of future economic conditions, as appropriate. Since the credit risk has not increased significantly since initial recognition for the above financial assets, the expected loss was calculated based on the possible default events within the next 12 months at a ECL rate of 0.38%.

對於上述長期應收賬款及服務特許權長期應收款項，在每個報告日，通過參照集團的歷史損失記錄考慮違約概率，採用損失率方法，進行減值分析，並參考目前的情況和對未來經濟情況的預測對損失率作出調整，以反映目前的情況和對未來經濟情況的預測。由於上述金融資產的信用風險自初始確認以來並沒有顯著增加，因此預計損失根據未來12個月內可能發生的壞賬損失率以0.38%來計算。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 23. OTHER NON-CURRENT ASSETS (CONTINUED)

#### (b) Movement in the loss allowance account (Continued)

Movement in the loss allowance account in respect of advances to third parties during the year is as follows:

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
Balance at 1 January	於1月1日結餘	(14,926)	(14,926)
Reversal of impairment	本年轉回	530	-
Balance at 31 December	於12月31日結餘	(14,396)	(14,926)

For the above advances to third parties, an impairment analysis is performed at each reporting date by considering the probability of default using the general approach.

### 23. 其他非流動資產(續)

#### (b) 壞賬損失變動(續)

本年長期應收第三方款項的壞賬損失變動如下：

對於上述長期應收第三方款項，在每個報告日，採用一般方法考慮違約概率，進行減值分析。

### 24. INVENTORIES

#### (a) Inventories in the consolidated statement of financial position comprises:

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
Raw materials	原材料	317,809	1,117,606
Work in progress	在產品	475,322	1,591,559
Finished goods	產成品	103,919	2,187,307
Spare parts	備件	246	11,748
		<b>897,296</b>	4,908,220

#### (b) The analysis of the amount of inventories recognised as an expense and included in the consolidated statement of profit or loss is as follows:

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
Carrying amount of inventories sold	售出存貨的帳面金額	4,202,137	5,323,399
Write-down of inventories	存貨撇減	273,068	1,813
		<b>4,475,205</b>	5,325,212

### 24. 存貨

#### (a) 合併財務狀況表中的存貨包括：

#### (b) 在合併損益表中確認為費用的存貨金額如下：

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 25. CONTRACT ASSETS

### 25. 合同資產

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
Contract assets arising from:	合同資產產生自：		
Sale of industrial products	銷售工業產品	<b>228,830</b>	2,340,163
Construction services	建造服務	<b>2,759,832</b>	2,114,813
Service concession arrangements	服務特許安排	-	740,201
		<b>2,988,662</b>	5,195,177
Less: Loss allowance	減：壞賬準備	<b>(180,765)</b>	(203,445)
		<b>2,807,897</b>	4,991,732
Portion classified as non-current assets	分類為非流動性部分	<b>778,231</b>	3,012,197
Current portion	分類為流動性部分	<b>2,029,666</b>	1,979,535

Contract assets are initially recognised for revenue earned from the sale of industrial products and the provision of construction service as the receipt of consideration is conditional on successful completion of installation of the industrial products and construction, respectively.

Included in contract assets for the sale of industrial products are retention receivables. Upon the end of the retention period, the amounts recognised as contract assets are reclassified to trade receivables. The retention receivables which will be received within one year are presented as contract assets within the current assets in the consolidated statement of financial position and other retention receivables are presented as other non-current assets.

當銷售工業產品和提供建造服務產生收入，且收到的對價分別取決於成功完成工業產品的安裝和建造時開始對合同資產的初始確認。

銷售工業產品的合同資產中包括應收質保金款項。隨著質保期滿，合同資產中確認的金額被重分類為應收賬款。一年內將收回的應收質保金在合併財務狀況報表中列示為流動資產中的合同資產，其他的被列示為其他非流動資產。

## NOTES TO FINANCIAL STATEMENT (CONTINUED)

### 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

#### 25. CONTRACT ASSETS (CONTINUED)

Contract assets arising from the construction services represented unbilled revenue for construction contract work. The expected timing of recovery of such contracts as at 31 December is as follows:

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
Within one year	一年以內	<b>2,377,329</b>	1,914,586
After one year	一年以上	<b>382,503</b>	940,428
Total contract assets arising from the construction services	產生自建造服務的合同資產 總額	<b>2,759,832</b>	2,855,014

The movements in the loss allowance for impairment of contract assets are as follows:

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
At beginning of year	年初	<b>(203,445)</b>	(206,413)
Disposal of subsidiaries	處置子公司	<b>25,287</b>	-
Impairment losses, net	壞賬損失淨額	<b>(2,607)</b>	2,968
At end of year	年末	<b>(180,765)</b>	(203,445)

An impairment analysis is performed at each reporting date using a provision matrix to measure expected credit losses. The provision rates for the measurement of the expected credit losses of the contract assets are based on the trade receivables from the same customer bases. The provision rates of contract assets are based on the ageing of trade receivables for groupings of various customer segments with similar loss patterns. The calculation reflects the probability weighted outcome, the time value of money and reasonable and supportable information that is available at the reporting date about past events, current conditions and forecasts of future economic conditions.

The provision rates of contract assets related to retentions of the sale of industrial products and construction services are generally calculated using the expected loss rate of trade receivables with the ageing within one year if the amounts are not credit-impaired.

The provision of contract assets arising from service concession arrangement are calculated on the 12-month expected loss rate, which was the same as that of the long-term service concession receivables as disclosed in Note 23 above.

#### 25. 合同資產(續)

產生自建造服務的合同資產指建造合同工程下未發賬單的收入。這類合同在12月31日的預計收回時間如下：

合同資產中壞賬損失的變動如下：

每個報告日都會運用撥備矩陣執行減值分析去計量預計信用損失。用於計量合同資產的預計信用損失的計提比例是根據相同客戶群的應收賬款確定。合同資產的計提比例是根據具有相似損失情況的各客戶群的應收賬款賬齡確定。計算反映了概率加權結果，貨幣的時間價值以及在報告日關於過去事件，現在的事件以及預期未來經濟環境下可獲得的合理和可支持性信息。

銷售工業產品的質保金和建造服務相關合同資產預計信用損失的計提率是在未發生信用減值的情況下，按照一年內賬齡的應收賬款預期損失率計算的。

合同資產(特許經營權)按12個月的預期損失率計算，與上述附註23中長期特許服務應收賬款相同。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 25. CONTRACT ASSETS (CONTINUED)

Set out below is the information about the credit risk exposure on the Group's contract assets using a provision matrix:

		<b>Expected credit loss (not credit-impaired)</b> 預期信用損失(未發生信用減值)	<b>Expected credit loss (credit-impaired)</b> 預期信用損失(發生信用減值)	<b>Total</b> 合計
Expected credit loss rate	預期信用損失率	<b>0.36%</b>	<b>100.00%</b>	
Gross carrying amount (RMB'000)	賬面金額總額(人民幣千元)	<b>2,818,086</b>	<b>170,576</b>	<b>2,988,662</b>
Expected credit losses (RMB'000)	預期信用損失(人民幣千元)	<b>(10,189)</b>	<b>(170,576)</b>	<b>(180,765)</b>

		Expected credit loss (not credit-impaired) 預期信用損失(未發生信用減值)	Expected credit loss (credit-impaired) 預期信用損失(發生信用減值)	Total 合計
Expected credit loss rate	預期信用損失率	0.65%	100%	
Gross carrying amount (RMB'000)	賬面金額總額(人民幣千元)	5,024,601	170,576	5,195,177
Expected credit losses (RMB'000)	預期信用損失(人民幣千元)	(32,869)	(170,576)	(203,445)

The contract assets of the Group include an amount of RMB1,588,839,000 due from related parties under China Energy (2020: RMB1,006,019,000 due from related parties under China Energy).

### 25. 合同資產(續)

下表載列的信息是關於使用撥備矩陣得到的集團合同資產的信用損失風險：

		<b>Expected credit loss (not credit-impaired)</b> 預期信用損失(未發生信用減值)	<b>Expected credit loss (credit-impaired)</b> 預期信用損失(發生信用減值)	<b>Total</b> 合計
Expected credit loss rate	預期信用損失率	<b>0.36%</b>	<b>100.00%</b>	
Gross carrying amount (RMB'000)	賬面金額總額(人民幣千元)	<b>2,818,086</b>	<b>170,576</b>	<b>2,988,662</b>
Expected credit losses (RMB'000)	預期信用損失(人民幣千元)	<b>(10,189)</b>	<b>(170,576)</b>	<b>(180,765)</b>

		Expected credit loss (not credit-impaired) 預期信用損失(未發生信用減值)	Expected credit loss (credit-impaired) 預期信用損失(發生信用減值)	Total 合計
Expected credit loss rate	預期信用損失率	0.65%	100%	
Gross carrying amount (RMB'000)	賬面金額總額(人民幣千元)	5,024,601	170,576	5,195,177
Expected credit losses (RMB'000)	預期信用損失(人民幣千元)	(32,869)	(170,576)	(203,445)

本集團合同資產包括應從國家能源集團下屬的關聯方收取的款額約為人民幣1,588,839,000元，(2020年：人民幣1,006,019,000元應從國家能源集團下屬的關聯方收取)。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 26. TRADE AND BILLS RECEIVABLES

### 26. 應收賬款及票據

		<b>31 December 2021 2021年 12月31日 RMB'000 人民幣千元</b>	31 December 2020 2020年 12月31日 RMB'000 人民幣千元
Trade receivables for contract work due from:	合同工程的應收賬款：		
– related parties under China Energy	– 國家能源集團下屬的關聯方	<b>1,788,587</b>	2,027,582
– associates	– 聯營公司	<b>18,316</b>	147
– third parties	– 第三方	<b>1,666,748</b>	2,171,050
		<b>3,473,651</b>	4,198,779
Trade receivables for operating leases due from:	經營租賃的應收賬款：		
– related parties under China Energy	– 國家能源集團下屬的關聯方	<b>64,555</b>	67,369
		<b>64,555</b>	67,369
Trade receivables for sale of goods and rendering of services due from: (Note (ii))	銷售商品及提供服務的應收賬款：(附註(ii))		
– China Energy	– 國家能源集團	<b>1,816</b>	1,740
– related parties under China Energy	– 國家能源集團下屬的關聯方	<b>756,649</b>	1,872,899
– associates	– 聯營公司	<b>204,635</b>	26,765
– third parties	– 第三方	<b>1,148,551</b>	2,280,813
		<b>2,111,651</b>	4,182,217
		<b>5,649,857</b>	8,448,365
Less: Loss allowance	減：壞賬撥備	<b>(1,355,991)</b>	(1,725,017)
		<b>4,293,866</b>	6,723,348



## NOTES TO FINANCIAL STATEMENT (CONTINUED)

### 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

#### 26. TRADE AND BILLS RECEIVABLES (CONTINUED)      26. 應收賬款及票據(續)

		<b>31 December 2021 2021年 12月31日 RMB'000 人民幣千元</b>	31 December 2020 2020年 12月31日 RMB'000 人民幣千元
Bills receivable for contract work due from:	合同工程的應收票據：		
– related parties under China Energy	國家能源集團下屬的關聯方	<b>259,238</b>	583,040
– third parties	第三方	<b>625,966</b>	419,063
		<b>885,204</b>	1,002,103
Bills receivable for sale of goods and rendering of services due from:	銷售商品及提供服務的應收票據：		
– related parties under China Energy	國家能源集團下屬的關聯方	<b>96,137</b>	246,845
– associates	聯營公司	<b>126,307</b>	–
– third parties	第三方	<b>454,725</b>	711,221
		<b>677,169</b>	958,066
		<b>1,562,373</b>	1,960,169
Less: Loss allowance	減：壞賬撥備	<b>(157,600)</b>	(6,731)
		<b>1,404,773</b>	1,953,438
Net value of trade and bills receivables	應收賬款及票據淨值	<b>5,698,639</b>	8,676,786

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 26. TRADE AND BILLS RECEIVABLES (CONTINUED)

Notes:

- (i) Trade and bills receivables of the Group include bills endorsed to suppliers totalling RMB293,427,000 (2020: RMB56,797,000). These receivables were not derecognised as the Group remains exposed to the credit risk of these receivables. The carrying amount of the trade payables was RMB293,427,000 (2020: RMB56,797,000). As at 31 December 2021, the fair value of the transferred assets and the associated liabilities was the same as their carrying amount with the net position of nil (2020: Nil).

At 31 December 2021, the Group endorsed certain bills receivable accepted by banks in Mainland China to certain of its suppliers in order to settle the trade payables due to such suppliers with a carrying amount in aggregate of RMB356,180,000 (2020: RMB1,234,165,000) and factored certain bills receivables accepted by banks in Mainland China with a carrying amount in aggregate of RMB62,193,000 (2020: RMB10,000,000) (the “**Derecognised Bills**”). The Derecognised Bills had a maturity of one to twelve months at the end of the reporting period. In accordance with the Law of Negotiable Instruments in the PRC, the holders of the Derecognised Bills have a right of recourse against the Group if the PRC banks default (the “**Continuing Involvement**”). In the opinion of the Directors, the Group has transferred substantially all risks and rewards relating to the Derecognised Bills. Accordingly, it has derecognised the full carrying amounts of the Derecognised Bills and the associated trade payables. The maximum exposure to loss from the Group's Continuing Involvement in the Derecognised Bills and the undiscounted cash flows to purchase these Derecognised Bills is equal to their carrying amounts. In the opinion of the Directors, the fair values of the Group's Continuing Involvement in the Derecognised Bills are not significant. During the year ended 31 December 2021, the Group has not recognised any gain or loss on the date of transfer of the Derecognised Bills. No gains or losses were recognised from the Continuing Involvement, both during the year or cumulatively. The endorsement has been made evenly throughout the year.

- (ii) As at 31 December 2021, trade receivables of the Group amounting to nil (2020: RMB117,747,000) were pledged as collateral for interest-bearing bank loans and other borrowings.

All trade and bills receivables (net of loss allowance) of the Group are expected to be recovered within one year.

### 26. 應收賬款及票據(續)

附註：

- (i) 於2021年12月31日，本集團的應收賬款及票據包括背書轉讓給供貨商的票據，總額約為人民幣293,427,000元(2020年：人民幣56,797,000元)。這些應收賬款和票據未被中止確認，因為本集團仍對這些應收賬款和票據具有信用風險。相關應付帳款的賬面金額約為人民幣293,427,000元(2020年：人民幣56,797,000元)。於2021年12月31日，轉讓資產的公允價值及關聯負債與其賬面金額相同，淨差額為零(2020年：零)。

於2021年12月31日，本集團向其若干供應商背書獲中國內地的銀行接納的若干應收票據，賬面總值為人民幣356,180,000元(2020年：人民幣1,234,165,000元)，以結清應付該等供應商的貿易應付款項，並對獲中國內地銀行接納的若干應收票據進行貼現，賬面總值為人民幣62,193,000元(2020年：人民幣10,000,000元)(「已終止確認票據」)。於報告期末，已終止確認票據的期限為一至十二個月。根據中國票據法，倘中國的銀行違約，已終止確認票據持有人有權向本集團追索(「持續參與」)。董事認為，本集團已轉讓有關已終止確認票據的絕大部分風險及回報，故其悉數終止確認了已終止確認票據及相關貿易應付款項的賬面值。本集團持續參與已終止確認票據及購回該等已終止確認票據的未貼現現金流量所面臨的最大損失相等於其賬面值。董事認為，本集團持續參與已終止確認票據的公允價值並不重大。截至2021年12月31日止年度，本集團並未在轉讓已終止確認票據之日確認任何收益或虧損。年內或累計至今均無自持續參與與確認收益或虧損。背書已於年內均作出。

- (ii) 於2021年12月31日，本集團作為帶息銀行及其他借款押物而質押的應收賬款約為人民幣零元(2020年：人民幣117,747,000元)。

本集團所有應收賬款與票據(扣除壞賬撥備)預計將於一年之內收回。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 26. TRADE AND BILLS RECEIVABLES (CONTINUED)

### 26. 應收賬款及票據(續)

#### (a) Ageing analysis

As of the end of the reporting period, the ageing analysis of trade receivables, based on the invoice date (or date of revenue recognition, if earlier) and net of loss allowance of the Group, is as follows:

#### (a) 賬齡分析

於報告期末，本集團基於開立發票日期(或收入確認日，兩者孰早)的應收賬款扣除壞賬撥備的賬齡分析如下：

		2021	2020
		<i>RMB'000</i>	<i>RMB'000</i>
		人民幣千元	人民幣千元
Within 1 year	1年內	<b>2,566,764</b>	3,856,040
Between 1 and 2 years	1至2年內	<b>652,499</b>	1,321,999
Between 2 and 3 years	2至3年內	<b>593,443</b>	568,487
Over 3 years	3年以上	<b>481,160</b>	976,822
		<b>4,293,866</b>	6,723,348

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 26. TRADE AND BILLS RECEIVABLES (CONTINUED)

### 26. 應收賬款及票據(續)

#### (b) Impairment analysis

Movement in the loss allowance account in respect of trade receivables during the year is as follows:

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
Balance at 1 January	於1月1日結餘	<b>(1,725,017)</b>	(2,001,070)
Impairment losses, net	本年確認的減值虧損淨值	<b>(46,040)</b>	188,171
Uncollectible amounts written off	本年核銷金額	<b>3,403</b>	87,882
Reclassified to bills receivable	重分類至應收票據	<b>22,745</b>	-
Disposal of subsidiaries	處置子公司	<b>388,918</b>	-
Balance at 31 December	於12月31日結餘	<b>(1,355,991)</b>	(1,725,017)

An impairment analysis is performed at each reporting date using a provision matrix to measure expected credit losses. The provision rates are based on the ageing of balance of trade receivables for groupings of various customer segments with similar loss patterns. The calculation reflects the probability weighted outcome, the time value of money and reasonable and supportable information that is available at the reporting date about past events, current conditions and forecasts of future economic conditions.

#### (b) 減值分析

本年有關應收賬款的呆帳撥備的變動如下：

於每個報告日，本集團使用撥備矩陣計算應收賬款的預期信用損失。預期信用損失率為根據具有類似損失模式的各個客戶群應收賬款餘額的賬齡計算得出。此計算反映出概率加權結果、貨幣的時間價值及於報告日可獲得的有關過去事件、當前狀況和未來經濟情況預測的合理及有依據的信息。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 26. TRADE AND BILLS RECEIVABLES (CONTINUED)

### 26. 應收賬款及票據(續)

#### (b) Impairment analysis(continued)

The following table provides information about the Group's exposure to credit risk and ECLs for trade receivables as at 31 December 2021 and 2020:

#### (b) 減值分析(續)

2021年及2020年12月31日，本集團應收賬款的信貸風險及預期信用損失率如下表：

2021		Expected loss rate 預期損失率 %	Gross carrying amount 賬面價值 RMB'000 人民幣千元	Loss allowance 壞賬準備 RMB'000 人民幣千元
Within 1 year	1年內	0.9%	2,590,371	(23,607)
Between 1 and 2 years	1至2年內	3.3%	674,809	(22,310)
Between 2 and 3 years	2至3年內	4.8%	623,664	(30,222)
Over 3 years	3年以上	72.7%	1,761,013	(1,279,852)
			<b>5,649,857</b>	<b>(1,355,991)</b>
2020		Expected loss rate 預期損失率 %	Gross carrying amount 賬面價值 RMB'000 人民幣千元	Loss allowance 壞賬準備 RMB'000 人民幣千元
Within 1 year	1年內	0.8%	3,885,471	(29,432)
Between 1 and 2 years	1至2年內	5.0%	1,391,536	(69,537)
Between 2 and 3 years	2至3年內	10.6%	636,114	(67,627)
Over 3 years	3年以上	61.5%	2,535,244	(1,558,421)
			8,448,365	(1,725,017)

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 26. TRADE AND BILLS RECEIVABLES (CONTINUED)

### 26. 應收賬款及票據(續)

#### (b) Impairment analysis(continued)

Movement in the loss allowance account in respect of bills receivable during the year is as follows:

		2021 <b>RMB'000</b> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
Balance at 1 January	於1月1日結餘	<b>(6,731)</b>	–
Impairment losses, net	本年確認的減值虧損淨值	<b>(29,382)</b>	(6,731)
Reclassified from trade receivables	重分類自應收賬款	<b>(22,745)</b>	–
Reclassified from other receivables ( <i>Note 27</i> )	重分類自其他應收款(附註27)	<b>(98,742)</b>	–
Balance at 31 December	於12月31日結餘	<b>(157,600)</b>	(6,731)

Bills receivable as at 31 December 2021 were bank acceptance bills and commercial acceptance bills with a maturity of six to twelve months, and the management made the loss allowance according to the probability of default.

#### (b) 減值分析(續)

本年有關應收票據的呆帳撥備的變動如下：

		2021 <b>RMB'000</b> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
Balance at 1 January	於1月1日結餘	<b>(6,731)</b>	–
Impairment losses, net	本年確認的減值虧損淨值	<b>(29,382)</b>	(6,731)
Reclassified from trade receivables	重分類自應收賬款	<b>(22,745)</b>	–
Reclassified from other receivables ( <i>Note 27</i> )	重分類自其他應收款(附註27)	<b>(98,742)</b>	–
Balance at 31 December	於12月31日結餘	<b>(157,600)</b>	(6,731)

於2021年12月31日應收票據為期限為六至十二個月的銀行承兌票據和商業承兌匯票，管理層根據損失率計算壞賬撥備。

## NOTES TO FINANCIAL STATEMENT (CONTINUED)

### 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

#### 27. DEPOSITS, PREPAYMENTS AND OTHER RECEIVABLES      27. 按金、預付款項及其他應收款項

		2021 <i>RMB'000</i> 人民幣千元	2019 <i>RMB'000</i> 人民幣千元
Deposits for construction contracts' bidding or performance ( <i>Note (i)</i> )	建造合同的投標或履約保證金 (附註(i))		
– related parties under China Energy ( <i>Note (v)</i> )	– 國家能源集團下屬的關聯方(附註(v))	<b>58,278</b>	118,231
– third parties	– 第三方	<b>68,045</b>	82,840
Advances to staff	給員工的墊款	<b>8,213</b>	10,786
Advances to	墊款		
– associates ( <i>Note (ii)</i> )	– 聯營公司(附註(ii))	<b>4,163</b>	24,446
– related parties under China Energy ( <i>Note (v)</i> )	– 國家能源集團下屬的關聯方(附註(v))	<b>2,294</b>	10,618
– third parties ( <i>Note (iii)</i> )	– 第三方(附註(iii))	<b>441,579</b>	553,121
Consideration receivables for the disposal of subsidiaries and associates from	應收處置附屬公司及聯營公司的對價		
– related parties under China Energy	– 國家能源集團下屬的關聯方	–	216,264
– third parties ( <i>Note (vi)</i> )	– 第三方(附註(vi))	<b>262,039</b>	24,137
Consideration receivables for the disposals of property, plant and equipment	應收出售物業、廠房、及設備的款項		
– related parties under China Energy ( <i>Note(v)</i> )	– 國家能源集團下屬的關聯方(附註(v))	<b>61,494</b>	160,236
Loan to an associate	給聯營公司的貸款	<b>373,259</b>	373,259
Interest receivables	應收利息		
– an associate	– 聯營公司	<b>113,741</b>	113,741
– third parties	– 第三方	<b>19,307</b>	30,252
Dividends receivable	應收股利		
– a related party under China Energy	– 國家能源集團下屬的關聯方	<b>24,400</b>	3,577
Wealth management products in financial institutions	金融機構的理財產品	–	50,000
Others	其他		
– an associate	– 聯營公司	<b>74,699</b>	–
– related parties under China Energy	– 國家能源集團下屬的關聯方	<b>23,930</b>	24,143
– third parties	– 第三方	<b>65,036</b>	190,158
Less: Loss allowance	減：壞賬撥備	<b>(926,453)</b>	(966,956)
Financial assets measured at amortised cost ( <i>Note (vii)</i> )	以攤餘成本計量的金融資產 (附註(vii))	<b>674,024</b>	1,018,853
Prepayments to sub-contractors ( <i>Note (iv)</i> )	支付給分包商的預付款 (附註(iv))		
– related parties under China Energy	– 國家能源集團下屬的關聯方	<b>81,322</b>	64,232
– third parties	– 第三方	<b>417,283</b>	633,346
Prepayments for purchase of inventories	採購存貨的預付款		
– related parties under China Energy	– 國家能源集團下屬的關聯方	<b>38,348</b>	34,598
– third parties	– 第三方	<b>264,096</b>	321,094
The short-term portion of input value-added tax to be deducted	待抵扣進項稅短期部分	<b>114,708</b>	149,730
		<b>1,589,781</b>	2,221,853

## NOTES TO FINANCIAL STATEMENT (CONTINUED)

### 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

#### 27. DEPOSITS, PREPAYMENTS AND OTHER RECEIVABLES (CONTINUED)

Notes:

- (i) The balances represent deposits placed with customers for contracts' bidding and performance. The deposits will be released to the Group upon the completion of the related bidding and performance.
- (ii) Advance to associates of RMB4,163,000 (2020: RMB24,446,000) as at 31 December 2021 is unsecured, bears interest at a rate of 4.35% (2020: 4.35% to 6.60%) per annum, and is repayable within one year.
- (iii) Advances to third parties mainly represent receivables of RMB385,714,000 from a former subsidiary which was disposed of during the year ended 31 December 2017. The receivables are interest-free.
- (iv) The balances represent prepayments to the sub-contractors in connection with the Group's construction contracts. The prepayments will be settled upon the delivery of goods and services by the sub-contractors.
- (v) The balances from related parties under China Energy are interest-free and unsecured. All of them are expected to be received within one year or are receivable on demand.
- (vi) The balance as at 31 December 2021 mainly represented the remaining consideration and the related interest of disposal of Guodian Galaxy Water of RMB237,902,000 (Note 40(b)).
- (vii) For the financial assets above, an impairment analysis is performed at each reporting date by considering the probability of default by applying a loss rate approach with reference to the historical loss record of the Group. The loss rate is adjusted to reflect the current conditions and forecasts of future economic conditions, as appropriate. For staff advances and interest receivables from third parties, dividend receivables and wealth management products in financial institutions included in deposits, prepayments and other receivables, there is a specific due date or settlement schedule, and management considers the probability of default as minimal. The expected loss rate applied for the rest of the deposits and other receivables is calculated based on possible default events within the next 12 months or the expected lifetime.

#### 27. 按金、預付款項及其他應收款項(續)

附註：

- (i) 該款項是關於合同投標或合同履約而支付給客戶的保證金。相關投標或合同工程完工之後，該保證金則將返還給本集團。
- (ii) 於2021年12月31日，給聯營公司墊款約為人民幣4,163,000元(2020：人民幣24,446,000元)，年息率為4.35%(2020：4.35%-6.60%)無抵押，要求在一年內償還。
- (iii) 對第三方的應收款項主要是應收於截至2017年12月31日止年度處置的前附屬公司的款項人民幣385,714,000元，該應收款無息。
- (iv) 該款項是關於集團建造合同支付分包商的預付款項。預付款將在分包商交付貨物和提供服務時結算。
- (v) 來自國家能源集團下屬關聯方的餘額免息，無抵押，預期於1年內或按要求償還。
- (vi) 於2021年12月31日，餘額主要為處置國電銀河水務股份有限公司剩餘股權轉讓款及利息人民幣237,902,000元(附註40(b))。
- (vii) 對於上述金融資產，在每個報告日，通過參照集團的歷史損失記錄考慮違約概率，採用損失率方法，進行減值分析。參考目前的情況和對未來經濟情況的預測對損失率作出調整。對於給員工的墊款、應收第三方的利息、應收股利和金融機構的理財產品，它們有具體的到期日或結算時間表，管理層認為違約的可能性很小。對於除上述之外款項性質的其他應收款項預期損失率根據未來12個月或預期未來內可能發生的違約事件計算。



## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 27. DEPOSITS, PREPAYMENTS AND OTHER RECEIVABLES (CONTINUED)

Movements in the loss allowance account in respect of financial assets included in deposits, prepayment and other receivables during the year are as follows:

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
Balance at 1 January	於1月1日結餘	<b>(966,956)</b>	(907,014)
Impairment losses, net	本年計提	<b>(85,058)</b>	(59,942)
Disposal of subsidiaries	處置子公司	<b>26,819</b>	-
Reclassified to bills receivable (Note 26)	重分類至應收票據 (附註26)	<b>98,742</b>	-
Balance at 31 December	於12月31日結餘	<b>(926,453)</b>	(966,956)

### 27. 按金、預付款項及其他應收款項(續)

本年按金、預付款項及其他應收款項中的金融資產壞賬損失變動如下：

### 28. RESTRICTED DEPOSITS

Restricted deposits mainly represent guarantee deposits, cash pledged as collateral for bills payable, letters of credit margin deposits and frozen deposits.

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
Restricted cash	受限制存款		
- Released within 1 year	1年內解除限制	<b>103,179</b>	408,556
- Released more than 1 year	1年以上解除限制	<b>1,598</b>	11,812
		<b>104,777</b>	420,368

### 28. 受限制存款

受限制存款主要為保函保證金存款、應付票據的保證金存款、信用證保證金存款和凍結存款。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 29. CASH AT BANK AND IN HAND AND OTHER CASH FLOW INFORMATION 29. 銀行存款、庫存現金及其他現金流量信息

**(a) Cash and cash equivalents comprise:**

		<b>At 31 December 2021 RMB'000 人民幣千元</b>	At 31 December 2019 RMB'000 人民幣千元
Cash at bank	銀行存款	<b>1,309,641</b>	1,397,587
Cash at a related party under China Energy (Note(i))	於國家能源集團下屬的 關聯方存放的現金(附註(i))	<b>3,511,099</b>	3,885,610
		<b>4,820,740</b>	5,283,197
Representing:	包括：		
- Cash and cash equivalents	現金流量表中的現金 及現金等價物	<b>4,136,740</b>	4,373,197
- Deposits with banks over three months of original maturity	初始到期日三個月以上 的銀行存款	<b>684,000</b>	910,000
		<b>4,820,740</b>	5,283,197
		<b>4,820,740</b>	5,283,197
		<b>4,820,740</b>	5,283,197

Note:

- (i) As at 31 December 2021, cash at a related party under China Energy represented the deposits in China Energy Finance Co., Ltd., a registered financial institution in the PRC.

附註：

- (i) 於2021年12月31日，於國家能源集團下屬的關聯方存放的現金為存放於國家能源集團財務有限公司的現金，該公司為在中國註冊的金融機構。

**(b) Major non-cash transactions:**

During the year, the Group had non-cash additions to right-of-use assets and lease liabilities of RMB56,730,000 and RMB56,730,000, respectively, in respect of lease arrangements for land, buildings and structures, motor vehicles and other equipment.

**(b) 主要的非現金交易：**

在土地、樓宇及建築物、車輛和其他設備的租賃安排方面，2021年，本集團使用權資產和租賃負債的非現金增加分別為人民幣56,730,000元和人民幣56,730,000元。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 29. CASH AT BANK AND IN HAND AND OTHER CASH FLOW INFORMATION (CONTINUED)      29. 銀行存款、庫存現金及其他現金流量信息(續)

#### (c) Reconciliation of liabilities arising from financing activities

#### (c) 融資活動產生負債調節表

		Bank loans, other borrowings and interest payables 銀行貸款、 其他借款及 應付利息 <i>RMB'000</i> 人民幣千元 <i>(Notes 30 and 32)</i> (附註30及32)	Private placement notes 私人配售債務 融資工具 <i>RMB'000</i> 人民幣千元 (Note 30) (附註30)	Corporate bonds 公司債券 <i>RMB'000</i> 人民幣千元 (Note 30) (附註30)	Lease liabilities 租賃負債 <i>RMB'000</i> 人民幣千元 (Note 17) (附註17)	Total 總計 <i>RMB'000</i> 人民幣千元
At 1 January 2021	於2021年1月1日	6,889,678	2,012,930	2,945,491	132,948	11,981,047
<b>Changes from financing cash flows:</b>	<b>融資現金流變化：</b>					
Proceeds from bank loans and other borrowings	銀行貸款及其他借款所得	8,073,883	-	-	-	8,073,883
Repayment of bank loans and other borrowings	償還銀行貸款及其他借款	(7,927,070)	-	-	-	(7,927,070)
Repayment of private placement notes	償還私募債券	-	(1,000,000)	-	-	(1,000,000)
Disposal of subsidiaries	處置子公司	(4,798,583)	-	-	(7,235)	(4,805,818)
Principal portion of lease payments	租賃付款的本金部分	-	-	-	(52,658)	(52,658)
Interest paid	支付利息	(187,665)	(203,462)	(31,185)	-	(422,312)
Total changes from financing cash flows	融資現金流變化總計	(4,839,435)	(1,203,462)	(31,185)	(59,893)	(6,133,975)
<b>Other changes:</b>	<b>其他費用：</b>					
Interest expenses (Note 9)	利息支出(附註9)	186,743	198,160	36,226	5,892	427,021
New leases	新租賃	-	-	-	56,730	56,730
Total other changes	其他費用總計	186,743	198,160	36,226	62,622	483,751
At 31 December 2021	於2021年12月31日	2,236,986	1,007,628	2,950,532	135,677	6,330,823

Note: Bank loans, other borrowings and interest payables consist of bank loans, other loans from financial institutions, China Energy and related parties under China Energy and interest payables as disclosed in Notes 30 and 32 to the financial statements.

附註：銀行貸款、其他借款和應付利息包括銀行貸款，來自金融機構的其他貸款，來自國家能源集團及其下屬關聯方的其他貸款和應付利息，見財務報表附註30和32。

## NOTES TO FINANCIAL STATEMENT (CONTINUED)

### 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

#### 29. CASH AT BANK AND IN HAND AND OTHER CASH FLOW INFORMATION (CONTINUED)

#### 29. 銀行存款、庫存現金及其他現金流量信息(續)

##### (c) Reconciliation of liabilities arising from financing activities (Continued)

##### (c) 融資活動產生負債調節表(續)

		Bank loans, other borrowings and interest payables 銀行貸款、其他借款及應付利息 RMB'000 人民幣千元 (Notes 30 and 32) (附註30及32)	Private placement notes 私人配售債務融資工具 RMB'000 人民幣千元 (Note 30) (附註30)	Corporate bonds 公司債券 RMB'000 人民幣千元 (Note 30) (附註30)	Lease liabilities 租賃負債 RMB'000 人民幣千元 (Note 17) (附註17)	Total 總計 RMB'000 人民幣千元
<b>At 1 January 2020</b>	<b>於2020年1月1日</b>	6,772,855	2,011,311	2,942,425	128,855	11,855,446
<b>Changes from financing cash flows:</b>	<b>融資現金流變化：</b>					
Proceeds from bank loans and other borrowings	銀行貸款及其他借款所得	8,905,360	-	-	-	8,905,360
Repayment of bank loans and other borrowings	償還銀行貸款及其他借款	(8,793,711)	-	-	-	(8,793,711)
Principal portion of lease payments	租賃付款的本金部分	-	-	-	(64,279)	(64,279)
Interest paid	支付利息	(333,407)	(96,833)	(137,837)	(7,046)	(575,123)
<b>Total changes from financing cash flows</b>	<b>融資現金流變化總計</b>	<b>(221,758)</b>	<b>(96,833)</b>	<b>(137,837)</b>	<b>(71,325)</b>	<b>(527,753)</b>
<b>Other changes:</b>	<b>其他費用：</b>					
Interest expenses (Note 9)	利息支出(附註9)	338,581	98,452	140,903	7,046	584,982
New leases	新租賃	-	-	-	68,372	68,372
<b>Total other changes</b>	<b>其他費用總計</b>	<b>338,581</b>	<b>98,452</b>	<b>140,903</b>	<b>75,418</b>	<b>653,354</b>
<b>At 31 December 2020</b>	<b>於2020年12月31日</b>	<b>6,889,678</b>	<b>2,012,930</b>	<b>2,945,491</b>	<b>132,948</b>	<b>11,981,047</b>

Note: Bank loans, other borrowings and interest payables consist of bank loans, other loans from financial institutions, China Energy and related parties under China Energy and interest payables as disclosed in Notes 30 and 32 to the financial statements.

附註：銀行貸款、其他借款和應付利息包括銀行貸款，來自金融機構的其他貸款，來自國電及國電下屬關聯方的其他貸款和應付利息，見財務報表附註30和32。

## NOTES TO FINANCIAL STATEMENT (CONTINUED)

### 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

#### 29. CASH AT BANK AND IN HAND AND OTHER CASH FLOW INFORMATION (CONTINUED)      29. 銀行存款、庫存現金及其他現金流量信息(續)

(d) Total cash outflow for leases:

(d) 租賃活動現金流出：

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
Within operating activities	經營租賃現金流出	47,790	30,020
Within financing activities	融資租賃現金流出	52,658	71,325
		<b>100,448</b>	101,345

#### 30. BORROWINGS

#### 30. 借款

(a) The long-term interest-bearing borrowings comprise:

(a) 長期帶息借款包括：

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
Bank loans	銀行貸款		
– secured	– 抵押	–	14,692
– unsecured	– 無抵押	539,316	851,600
Other loans from financial institutions (secured)	來自金融機構的其他貸款(抵押)	–	304,852
Other loans from China Energy (unsecured)	來自國家能源集團的其他貸款(無抵押)	600,000	–
Other loans from related parties under China Energy (unsecured)	來自國家能源集團下屬的關聯方的其他貸款(無抵押)	30,000	–
Private placement notes (unsecured) (Note (i))	私人配售債務融資工具(無抵押)(附註(i))	1,007,628	2,012,930
Corporate bonds (Note (ii))	公司債券(附註(ii))	2,950,532	2,945,491
		<b>5,127,476</b>	6,129,565
Less: Current portion of long-term borrowings	減：長期借款的即期部分	<b>(3,157,619)</b>	(1,694,446)
		<b>1,969,857</b>	4,435,119

## NOTES TO FINANCIAL STATEMENT (CONTINUED)

### 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

#### 30. BORROWINGS (CONTINUED)

##### (a) The long-term interest-bearing borrowings comprise: (Continued)

Notes:

- (i) In November 2018, the Company issued 3-year private placement notes with a face value of RMB1,000,000,000 issued at par and with a coupon rate of 6% per annum. The effective interest rate of the private placement notes is 6.15%. It was repaid in November 2021.

In October 2019, the Company issued 3-year targeted financial instruments with a face value of RMB1,000,000,000 issued at par and with a coupon rate of 4.05% per annum. The effective interest rate of the targeted financial instruments is 4.37%. The targeted financial instruments are guaranteed by China Energy and Guodian Power provided China Energy with a counter-guarantee according to its shares in the Company. At the same time, Longyuan Environmental provided the same amount of a counter-guarantee of same amount for Guodian Power in the form of letter of a counter-guarantee.

- (ii) In August 2012, the Company issued corporate bonds of RMB4,000,000,000, which comprise 10-year corporate bonds of RMB2,000,000,000 issued at par and with a coupon rate of 5.15% per annum. The effective interest rate of the bonds is 5.24% per annum. The corporate bonds are guaranteed by China Energy.

In September 2019, the Company issued 5-year corporate bonds of RMB900,000,000 with a coupon rate of 3.97% per annum. The effective interest rate of the bonds is 4.05% per annum. The corporate bonds are guaranteed by China Energy and GD Power Development Co., Ltd. ("Guodian Power") provided China Energy with a counter-guarantee according to its shares in the Company. At the same time Beijing Guodian Longyuan Environmental Engineering Co., Ltd. ("Longyuan Environmental") provided a counter-guarantee of same amount for Guodian Power in the form of a letter of counter-guarantee.

#### 30. 借款(續)

##### (a) 長期帶息借款包括：(續)

附註：

- (i) 於2018年11月，本公司發行了面值總額為人民幣1,000,000,000元，期限為三年的定向債券融資工具。票面年利率和實際年利率分別為6%和6.15%。這筆債券2021年11月償還。

於2019年10月，本公司發行了面值總額為人民幣1,000,000,000元，期限為三年的定向債券融資工具。票面年利率和實際年利率分別為4.05%和4.37%。該定向債券融資工具由國家能源集團擔保以及國電電力發展股份有限公司(「國電電力」)根據所持股份向國家能源集團提供反擔保。同時由本公司一家全資附屬公司龍源環保以反擔保函形式向國電電力提供同等金額反擔保。

- (ii) 於2012年8月，本公司發行公司債券人民幣4,000,000,000元，包括按面值發行的十年期公司債券人民幣2,000,000,000元，票面年利率為5.15%。此等債券的實際年利率為5.24%。該公司債券由國家能源集團擔保。

於2019年9月，本公司發行五年期公司債券人民幣900,000,000元，票面年利率為3.97%。實際票面年利率為4.05%。該公司債券由國家能源集團擔保以及國電電力發展股份有限公司(「國電電力」)根據所持股份向國家能源集團提供反擔保。同時由本公司一家全資附屬公司北京國電龍源環保工程有限公司(「龍源環保」)以反擔保函形式向國電電力提供同等金額反擔保。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 30. BORROWINGS (CONTINUED)

(b) The short-term interest-bearing borrowings comprise:

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
Bank loans	銀行貸款		
– unsecured	– 無抵押	<b>790,000</b>	5,106,000
Other loans	其他貸款		
– China Energy (unsecured)	– 國家能源集團(無抵押)	–	600,000
– related party under China Energy (unsecured) (Note (i))	– 國家能源集團附屬(無抵押) (附註(i))	<b>275,000</b>	–
Current portion of long-term borrowings	長期借款的即期部分	<b>3,157,619</b>	1,694,446
		<b>4,222,619</b>	7,400,446

Notes

(i) The interest rates of other loans from related party under China Energy are 2.00% to 3.86%, the loans are repayable within one year.

附註：

(i) 從國家能源集團附屬借入的其他貸款利率為2.00%至3.86%，貸款應在一年內償還。

(c) The effective interest rates per annum on borrowings are as follows:

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
<b>Long-term</b>	<b>長期</b>		
Bank loans	銀行貸款	<b>3.66%~3.95%</b>	3.95%~6.00%
Other loans	其他貸款	<b>0.00%~3.95%</b>	4.28%~5.22%
Private placement notes	私人配售債務融資工具	<b>4.37%</b>	4.37%~6.15%
Corporate bonds	公司債券	<b>4.05%~5.24%</b>	4.05%~5.24%
<b>Short-term</b>	<b>短期</b>		
Bank loans	銀行貸款	<b>3.30%~4.00%</b>	3.45%~5.40%
Other loans	其他貸款	<b>2.00%~3.86%</b>	0.00%

## NOTES TO FINANCIAL STATEMENT (CONTINUED)

### 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

#### 30. BORROWINGS (CONTINUED)

(d) The long-term borrowings are repayable as follows:

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
Within 1 year or on demand	1年內或要求時立即還款	<b>3,157,619</b>	1,694,446
After 1 year but within 2 years	1年以上但2年以內	<b>265,556</b>	81,338
After 2 years but within 5 years	2年以上但5年以內	<b>1,521,652</b>	4,205,473
After 5 years	5年以上	<b>182,649</b>	148,308
		<b>5,127,476</b>	6,129,565

#### 30. 借款(續)

(d) 長期借款還款情況如下：

#### 31. TRADE AND BILLS PAYABLES

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
Bills payable to:	應付票據：		
– sub-contractors and equipment suppliers	– 分包商及設備供貨商	<b>413,936</b>	265,405
– raw material suppliers	– 原材料供貨商	<b>202,477</b>	2,052,838
		<b>616,413</b>	2,318,243
Trade payables to	應付賬款：		
– sub-contractors and equipment suppliers:	– 分包商及設備供貨商：		
– related parties under China Energy	– 國家能源集團下屬的關聯方	<b>42,554</b>	66,536
– associates	– 聯營公司	<b>133,566</b>	667
– third parties	– 第三方	<b>4,202,757</b>	3,902,637
		<b>4,378,877</b>	3,969,840
– raw material suppliers:	– 原材料供貨商：		
– related parties under China Energy	– 國家能源集團下屬的關聯方	<b>33,983</b>	23,480
– associates	– 聯營公司	<b>10,766</b>	4,215
– third parties	– 第三方	<b>1,401,404</b>	4,399,505
		<b>1,446,153</b>	4,427,200
		<b>6,441,443</b>	10,715,283

#### 31. 應付賬款及票據



## NOTES TO FINANCIAL STATEMENT (CONTINUED)

### 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

#### 31. TRADE AND BILLS PAYABLES (CONTINUED)

As at 31 December 2021 and 2020, the trade and bills payables of the Group were generally repayable within six months. All trade and bills payables were expected to be settled within one year.

An ageing analysis of the trade and bills payables as at the end of the reporting period, based on the invoice date, is as follows:

#### 31. 應付賬款及票據(續)

於2021年12月31日及2020年12月31日，本集團的應付帳款及應付票據應一般於六個月內償還。所有應付帳款和票據預計將在一年內結清。

根據發票日期，報告期末應付帳款和應付票據的賬齡分析如下：

		2021	2020
		<i>RMB'000</i>	<i>RMB'000</i>
		人民幣千元	人民幣千元
Within 1 year	1年內	<b>4,447,956</b>	8,887,058
1 to 2 years	1至2年內	<b>1,227,510</b>	649,520
2 to 3 years	2至3年內	<b>229,911</b>	346,479
Over 3 years	3年以上	<b>536,066</b>	832,226
		<b>6,441,443</b>	10,715,283

#### 32. OTHER PAYABLES AND ACCRUALS

#### 32. 其他應付款

		2021	2020
		<i>RMB'000</i>	<i>RMB'000</i>
		人民幣千元	人民幣千元
Interest payables	應付利息		
– related parties under China Energy	– 國家能源集團下屬的關聯方	<b>1,172</b>	–
– third parties	– 第三方	<b>1,498</b>	12,534
Payables for purchases of property, plant and equipment and lease prepayments	購買物業、廠房及設備以及土地使用權的應付款項		
– related parties under China Energy	– 國家能源集團下屬的關聯方	–	10,626
– third parties	– 第三方	<b>3,823</b>	4,504
Deposits from	按金		
– sub-contractors (Note (i))	– 分包商(附註(i))	<b>64,785</b>	65,891
Other accruals and payables	其他預提金額與應付款項		
– China Energy (Note (ii))	– 國家能源集團(附註(ii))	<b>600,014</b>	600,014
– related parties under China Energy	– 國家能源集團下屬的關聯方	<b>100,612</b>	45,084
– associates	– 聯營公司	<b>14,186</b>	–
– third parties	– 第三方	<b>137,053</b>	288,752
Dividends payables	應付股息		
– non-controlling equity owners of subsidiaries	– 附屬公司非控股權益所有者	<b>297</b>	12,201
Current portion of lease liabilities	租賃負債中流動部分	<b>39,793</b>	62,102
Financial liabilities measured at amortised cost	按攤銷成本計量的金融負債	<b>963,233</b>	1,101,708
Payables for staff related costs	應付員工的相關成本	<b>86,792</b>	122,530
Payables for other taxes	應付其他稅項	<b>63,924</b>	90,997
Current portion of deferred income	遞延收益流動部分	<b>7,414</b>	18,435
		<b>1,121,363</b>	1,333,670

## NOTES TO FINANCIAL STATEMENT (CONTINUED)

### 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 32. OTHER PAYABLES AND ACCRUALS (CONTINUED) 32. 其他應付款(續)

Notes:

- (i) The balances represent deposits from sub-contractors for the bidding or performance of contracts. The deposits will be released to sub-contractors upon the completion of the related bidding or performance.
- (ii) The balances mainly represented an amount of RMB600,000,000 due to China Energy for repayment of a bank loan of RMB600,000,000 on behalf of Guodian Solar Co., Ltd. ("Guodian Solar", a subsidiary of the Group which was disposed of 2018) in the year ended 31 December 2016. All amounts due to China Energy are interest-free, unsecured and have no fixed terms of repayment.

All of the other payables of the Group are expected to be settled within one year or are repayable on demand.

附註：

- (i) 該款項指收取分包商的合同投標或履約按金。招標或履約結束之後，按金即還給分包商。
- (ii) 該款項為截止2016年12月31日止年度，國家能源集團作為保證人代為支付國電光伏有限公司(「國電光伏」，為本集團於2018年出售的附屬公司)人民幣6億元銀行借款而形成的墊款。所有款項均不帶息、無抵押且未規定還款期。

預計本集團的所有其他應付款項將於一年之內結清，或提出要求之後立即支付。

### 33. CONTRACT LIABILITIES

### 33. 合同負債

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
Contract liabilities arising from:	合同負債產生自：		
Sale of industrial products	銷售工業產品	251,118	1,420,053
Construction services	建造服務	925,223	1,176,226
		<b>1,176,341</b>	2,596,279

Contract liabilities represent advances received for the provision of construction services and sale of industrial products. The decrease in contract liabilities in 2021 was mainly due to the decrease in short-term advances received from customers in relation to the provision of construction services at the end of the year and also disposal of United Power (Note 40).

Included in the contract liabilities are amounts of RMB713,971,000 due to related parties under China Energy (2020: RMB2,073,100,000 due to related parties under China Energy).

合同負債指為提供建造服務和銷售工業產品而收到的預收款。2021年合同負債減少的主要原因是年底收到與提供建造服務的短期預收款減少和出售聯合動力導致(附註40)。

本集團合同負債包括應支付給國家能源集團下屬的關聯方的款項約為人民幣713,971,000元(2020年：人民幣2,073,100,000元應支付給國家能源集團下屬的關聯方)。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 34. INCOME TAX IN THE CONSOLIDATED STATEMENT OF FINANCIAL POSITION (CONTINUED)

### 34. 合併財務狀況表中的所得稅(續)

#### (a) Deferred tax assets and liabilities recognised:

The components of deferred tax assets/(liabilities) recognised in the consolidated statement of financial position and the movements during the year are as follows:

#### (a) 已確認的遞延稅項資產及負債：

合併資產負債表中確認的遞延稅項資產/(負債)以及在本年度的變化情況如下所述：

		Provision for impairment of assets 資產減值 撥備 RMB'000 人民幣千元	Tax losses 稅項虧損 RMB'000 人民幣千元	Unrealised profits on intra-group transactions 集團內部交易 未實現利潤 RMB'000 人民幣千元	Deferred income 遞延收益 RMB'000 人民幣千元	Provision for warranty 質保金 撥備 RMB'000 人民幣千元	Intangible assets 無形資產 RMB'000 人民幣千元 (Note) (附註)	Others 其他 RMB'000 人民幣千元	Total 合計 RMB'000 人民幣千元
At 1 January 2020	於2020年1月1日	373,080	129,975	17,283	19,716	124,381	(147,111)	(46,969)	470,355
(Charged)/credited to profit or loss (Note 11(a))	(扣減)/計入損益 (附註11(a))	1,159	(2,339)	20,479	1,743	(2,332)	(3,416)	(46,644)	(31,350)
(Charged) to other comprehensive income	(扣減)其他綜合收益	-	-	-	-	-	-	(249,468)	(249,468)
At 31 December 2020 and 1 January 2021	於2020年12月31日及 2021年1月1日	374,239	127,636	37,762	21,459	122,049	(150,527)	(343,081)	189,537
Credited/(charged) to profit or loss (Note 11(a))	計入/(扣減)損益 (附註11(a))	10,985	(60,181)	7,984	1,302	(16,647)	2,690	(3,852)	(57,719)
(Charged) to other comprehensive income	(扣減)其他綜合收益	-	-	-	-	-	-	(83,131)	(83,131)
Disposal of subsidiaries	處置子公司	(60,350)	(66,240)	(5,837)	(17,618)	(95,901)	122,306	(2,277)	(125,917)
At 31 December 2021	於2021年12月31日	324,874	1,215	39,909	5,143	9,501	(25,531)	(432,341)	(77,230)

Note:

Deferred tax liabilities in respect of intangible assets arose from the temporary differences in development costs and concession assets.

附註：

關於無形資產所產生的遞延所得稅負債是由於開發成本與特許權資產的暫時性差異而產生的。

## NOTES TO FINANCIAL STATEMENT (CONTINUED)

### 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

#### 34. INCOME TAX IN THE CONSOLIDATED STATEMENT OF FINANCIAL POSITION (CONTINUED)

#### 34. 合併財務狀況表中的所得稅(續)

##### (a) Deferred tax assets and liabilities recognised: (Continued)

##### (a) 已確認的遞延稅項資產及負債：(續)

Reconciliation to the consolidated statement of financial position

調節至合併財務狀況表

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
Net deferred tax asset recognised in the consolidated statement of financial position	於合併財務狀況表中確認的遞延稅項資產淨額	380,623	691,521
Net deferred tax liability recognised in the consolidated statement of financial position	於合併財務狀況表中確認的遞延稅項負債淨額	(457,853)	(501,984)
		<b>(77,230)</b>	189,537

##### (b) Deferred tax assets not recognised

##### (b) 未確認的遞延稅項資產

In accordance with the accounting policy set out in Note 2(w), the Group has not recognised deferred tax assets in respect of unused tax losses and certain deductible temporary differences of RMB4,780,689,000 (2020: RMB6,805,911,000), as it is not probable that future taxable profits against which the losses or the temporary differences can be utilised will be available in the relevant tax jurisdictions and entities. As at 31 December 2021, the expiration of tax losses of the Group, if unused, is as follows:

根據附註2(w)中規定的會計政策，本集團未確認遞延稅項資產包括的未利用的稅項虧損與某些可抵扣的暫時性差異約為人民幣4,780,689,000元(2020年：人民幣6,805,911,000元)，因為在相關稅務管轄區域及實體內，將來不很可能產生可以使用此等未利用稅項虧損或暫時性差異的應納稅利潤。於2021年12月31日，本集團未利用的稅項虧損的期限如下：

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
2021	2021	-	179,344
2022	2022	139,217	373,031
2023	2023	974,652	1,692,504
2024	2024	412,442	840,609
2025	2025	594,653	1,772,291
2026	2026	965,385	-
		<b>3,086,349</b>	4,857,779

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 34. INCOME TAX IN THE CONSOLIDATED STATEMENT OF FINANCIAL POSITION (CONTINUED)

#### (c) Deferred tax liability not recognised

At 31 December 2021, taxable temporary differences relating to undistributed profits and PRC statutory reserves of the PRC subsidiaries and associates amounted to RMB4,873,773,000 (2020: RMB4,991,346,000). No deferred tax liability was recognised in respect of these taxable temporary differences as dividends from subsidiaries and associates are not subject to withholding tax and the Group has no plan to dispose of these subsidiaries and associates in the foreseeable future.

### 34. 合併財務狀況表中的所得稅(續)

#### (c) 未確認的遞延稅項負債

於2021年12月31日，關於中國附屬公司與聯營公司的未分配利潤及中國法定公積金的應納稅暫時性差異約為人民幣4,873,773,000元(2020年：人民幣4,991,346,000元)。關於此等應納稅暫時性差異，未確認任何遞延所得稅項負債，因為從附屬公司及聯營公司取得的股息不需繳納預繳稅，且在可預見的未來，本集團並無任何計劃出售此等附屬公司及聯營公司。

### 35. PROVISIONS

The movements of provisions during the year are as follows:

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
At 1 January	於1月1日	566,387	592,599
Additional provisions made	額外撥備	381,816	294,814
Provision utilised	已使用撥備	(393,221)	(321,026)
Disposal of subsidiaries (Note 40)	處置子公司減少(附註40)	(500,404)	-
At 31 December	於12月31日	54,578	566,387
Less: Current portion of provision	減：撥備的即期部份	(49,416)	(381,661)
		<b>5,162</b>	184,726

Under the terms of the Group's sales agreements, the Group will rectify product defects of wind turbines, steam turbines and distributed control system products arising within one to five years from the date of sale. A provision is therefore made for the best estimate of the expected settlement under these agreements in respect of sales made within one to five years prior to the end of the reporting period.

The amount of the provision takes into account the Group's recent claim experience and the experiences of other companies for similar products and the provision is only made where a warranty claim is probable.

### 35. 撥備

本年度撥備的變化如下：

根據本集團銷售協議條款規定，產品售出日期之後1-5年內風機、汽輪機與分布式控制系統產生的產品缺陷，本集團將進行保修。因此，就在報告期末之前的1-5年內的銷售，根據協議項下的預期償付金額的最佳估計作出了撥備。

根據本集團近年來的理賠經驗以及其他公司關於類似產品的處理經驗，確定此等質保撥備，並僅對很可能產生質保要求的情形提取撥備。

## NOTES TO FINANCIAL STATEMENT (CONTINUED)

### 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

#### 36. DEFERRED INCOME

#### 36. 遞延收益

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
At 1 January	於1月1日	316,612	313,977
Additions	增加	57,649	34,089
Disposal of subsidiaries (Note 40)	處置子公司(附註40)	(122,449)	-
Credited to profit or loss	計入損益	(45,980)	(31,454)
At 31 December	於12月31日	205,832	316,612
Less: Portion classified as current liabilities	減：遞延收益的即期部分	(7,415)	(18,435)
Non-current portion	非即期部分	198,417	298,177

Deferred income mainly represents government grants relating to the construction of property, plant and equipment, as well as technology research funding relating to environmental protection related assets, which would be recognised as income on a straight-line basis over the expected useful life of the relevant assets. The deferred income recognised is included in "other revenue" in profit or loss.

遞延收益主要包括政府給予關於物業、廠房及設備的建造補貼，以及關於相關環保資產的技術研發基金，根據直線法在相關資產的預計使用壽命期內確認收入。確認為遞延收益的款項包括在損益中的「其他收入」內。

#### 37. OTHER NON-CURRENT LIABILITIES

#### 37. 其他非流動負債

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
Long-term retention payables to third parties	應付第三方的長期質保金	-	669,305
Other non-current financial liabilities	其他非流動負債	234,971	6,370
		234,971	675,675

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除特別註明外，金額單位為人民幣元)

### 37. OTHER NON-CURRENT LIABILITIES (CONTINUED) 37. 其他非流動負債(續)

On 23 September 2021, the Company entered into the capital injection and equity transfer agreement (the “**Agreement**”) with five investors, the Employees’ Shareholding Platforms and Guoneng I&C. According to the Agreement, (i) the Company agreed to transfer the equity interest (being approximately 16.33% of the total equity interests in Guoneng I&C) to the five investors for a total consideration of approximately RMB97,476,000; (ii) the five investors agreed to inject approximately RMB194,952,000 into the share capital in Guoneng I&C in return for approximately 32.67% of the equity interests in Guoneng I&C; and (iii) the Employees’ Shareholding Platforms agreed to inject approximately RMB29,840,000 into the share capital to Guoneng I&C in return for approximately 5% of the equity interests in Guoneng I&C, for the purpose of implementing the Share Incentive Scheme.

At the same day, the Company entered into the supplemental agreement (the “**Supplemental Agreement**”) with three of the five investors (“**the Financial Investors**”), pursuant to which, each of the Financial Investors shall have the right to cause the Company to purchase all of its entire equity interests in Guoneng I&C (the “**Put Right**”) at a price (the “**Put Price**”) which shall be the fair value of such equity interests as of the date of the exercise of the Put Right if Guoneng I&C is unable to achieve a qualified initial public offering by 30 June 2025. The Put Price shall be determined based on the total shareholders’ equity value of Guoneng I&C to be determined in a valuation report to be prepared by an independent valuer, multiplied by the proportion of the equity interests to be repurchased and accounted for by then equity interests held by the Company.

Up to 31 December 2021, the Company has received the consideration of RMB97,476,000 from the investors and the investors had injected the share capital of RMB194,952,000 into Guoneng I&C. According to the Supplemental Agreement, the Company recognised the financial liability of approximately RMB194,880,000 for the Put Right and the corresponding debt of the financial liability is made to capital reserve of the Company.

2021年9月23日，本公司與五名投資者、員工持股平台和國能信控簽訂了注資及股權轉讓協議(以下簡稱「**協議**」)。根據該協議，(i)本公司同意向五名投資者轉讓股權(約佔國能信控總股權的16.33%)，總對價約為人民幣97,476,000元；(ii)五名投資者同意以約人民幣194,952,000元向國能信控的股本注資，換取國能信控約32.67%的股權；(iii)員工持股平台同意向國能信控注資約人民幣29,840,000元以換取國能信控約5%的股權，用於實施股權激勵計劃。

同日，本公司與五名投資者中的三名(以下簡稱「**財務投資者**」)簽訂補充協議(「**補充協議**」)，據此，若國能信控無法在2025年6月30日前實現合格的首次公開募股，各財務投資者均有權要求本公司按照該等股權於認沽權行使日的公允價值(「**回購價**」)購買其於國能信控的全部股權(「**回購權**」)。回購價格應根據獨立估值師編製的估值報告中確定的國能信控的股東權益總值乘以擬回購的股權佔公司當時持有的股權的比例。

截至2021年12月31日，本公司已收到投資者對價人民幣97,476,000元，投資者已向國能信控注資人民幣194,952,000元。根據補充協議，本公司就回購權確認金融負債約人民幣194,880,000元，並將該金融負債的相應債務計入本公司資本公積。

## NOTES TO FINANCIAL STATEMENT (CONTINUED)

### 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

#### 38. CAPITAL, RESERVES AND DIVIDENDS

##### (a) Movements in components of equity

The reconciliation between the opening and closing balances of each component of the Group's consolidated equity is set out in the consolidated statement of changes in equity. Details of the changes in the Company's individual components of equity between the beginning and the end of the year are set out below:

		Share capital	Capital reserve	PRC statutory reserve	Accumulated losses	Fair value reserve (non-recycling)	Total equity
		股本	資本儲備	中國法定公積金	累計虧損	公允價值儲備 (不重新計入)	權益總額
		RMB'000	RMB'000	RMB'000	RMB'000	RMB'000	RMB'000
		人民幣千元	人民幣千元	人民幣千元	人民幣千元	人民幣千元	人民幣千元
<b>Balance at 1 January 2020</b>	<b>2020年1月1日結餘</b>	6,063,770	798,740	129,332	(3,444,518)	257,115	3,804,439
<b>Changes in equity for 2020</b>	<b>2020年權益變化</b>						
Profit for the year	本年度利潤	-	-	-	144,539	-	144,539
Other comprehensive income	其他綜合收益	-	-	-	-	751,279	751,279
Transfer of fair value reserve upon the disposal of equity investment of FVOCI	轉移處置以公允價值計量且其變動計入其他綜合收益的權益投資的公允價值儲備	-	-	-	2,874	(2,874)	-
<b>Balance at 31 December 2020 and 1 January 2021</b>	<b>2020年12月31號及2021年1月1號結餘</b>	6,063,770	798,740	129,332	(3,297,105)	1,005,520	4,700,257
<b>Changes in equity for 2021</b>	<b>2021年權益變化</b>						
Loss for the year	本年度利潤	-	-	-	(278,554)	-	(278,554)
Other comprehensive income	其他綜合收益	-	-	-	-	1,652,438	1,652,438
Transfer of fair value reserve upon the disposal of equity investment of FVOCI	轉移處置以公允價值計量且其變動計入其他綜合收益的權益投資的公允價值儲備	-	-	-	1,403,044	(1,403,044)	-
Others*	其他*	-	5,431	46,334	(229,520)	-	(177,755)
<b>Balance at 31 December 2021</b>	<b>2021年12月31日結餘</b>	6,063,770	804,171	175,666	(2,402,135)	1,254,914	5,896,386

\* As disclosed in note 40(a), United Power became the associate from subsidiary from 11 October 2021, an investment in an associate of United Power is accounted for in the Company financial statement under the equity method, thus the Company remeasured the shares of the net assets of United Power upon losing control over the subsidiary.

#### 38. 資本、儲備及股息

##### (a) 權益組成部分的變動

合併權益變動表中列出了本集團合併權益中各組成部分的期初及期末餘額的調節情況。本公司權益各組成部分的年初及年末變化情況如下所述：

\* 如附註40(a)所披露，聯合動力自2021年10月11日起由附屬公司成為聯營公司，對聯營公司聯合動力的投資按權益法計入公司財務報表，因此本公司在失去對子公司的控制權後重新計量聯合動力淨資產的份額。



## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

### 38. CAPITAL, RESERVES AND DIVIDENDS (CONTINUED)      38. 資本、儲備及股息(續)

#### (b) Dividends

- (i) Dividends payable to equity shareholders of the Company attributable to the year

The Board did not recommend the payment of a final dividend in respect of the years ended 31 December 2021 and 2020.

- (ii) Dividends payable to equity shareholders of the Company attributable to the previous financial year, approved during the year

The Board did not approve or pay any dividend in respect of the previous financial year during the years ended 31 December 2021 and 2020.

#### (b) 股息

- (i) 本年應付本公司權益股東股息

董事會不建議派發截至2021年及2020年12月31日止年度末期股息。

- (ii) 本年批准的上一個財年影響權益股東支付的股息

截至2021年及2020年12月31日止年度董事會未批准或派發以前年度相關的股息。

#### (c) Share capital

Registered and issued share capital

#### (c) 股本

已註冊及發行的股本

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
<b>Ordinary shares, registered, issued and fully paid:</b>	已註冊、發行且全部繳足的普通股：		
<b>Domestic shares of RMB1.00 each</b>	國內股份，每股人民幣1元		
At 1 January 2020, 31 December 2020 and 31 December 2021	於2020年1月1日，2020年12月31日及2021年12月31日	<b>4,754,000</b>	4,754,000
<b>H shares of RMB1.00 each</b>	H股，每股人民幣1元		
At 1 January 2020, 31 December 2020 and 31 December 2021	於2020年1月1日，2020年12月31日及2021年12月31日	<b>1,309,770</b>	1,309,770
<b>Total</b>	總計		
At 31 December 2021 and 2020	於2021年及2020年12月31日	<b>6,063,770</b>	6,063,770

The holders of ordinary shares are entitled to receive dividends as declared from time to time and are entitled to one vote per share at meetings of the Company. All ordinary shares rank equally with regard to the Company's residual assets.

普通股持有人有權收取不時公佈的股息，且每股在本公司會議上享有一票投票權。所有普通股對公司的剩餘資產享有同樣權利。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

### 38. CAPITAL, RESERVES AND DIVIDENDS (CONTINUED) 38. 資本、儲備及股息(續)

#### (d) Nature and purpose of reserves

##### (i) Capital reserve

The capital reserve mainly represents share premium, contributions from China Energy, and the difference between the considerations of acquisition or disposal of equity interests from/to non-controlling equity owners which is considered as an equity transaction, also the Put Right held by non-controlling equity owners arising from certain arrangements.

##### (ii) PRC statutory reserve

According to the Company's Article of Association, the Company is required to transfer 10% of its net profit as determined in accordance with accounting rules and regulations of the PRC to its statutory reserve until the reserve balance reaches 50% of the registered capital. The transfer to this reserve must be made before distribution of a dividend to equity shareholders. This reserve fund can be utilised in setting off accumulated losses or increasing capital of the Company and is non-distributable other than in liquidation.

##### (iii) Exchange reserve

The exchange reserve comprises all foreign exchange differences arising from the translation of the financial statements of operations that have functional currencies other than the RMB which are dealt with in accordance with the accounting policies as set out in Note 2(z) to the financial statements.

#### (d) 儲備性質及用途

##### (i) 資本儲備

資本儲備主要包括股份溢價、國家能源集團出資、向非控股權益所有者購買或出售權益的對價與相應淨資產賬面金額之間的差額，以及非控股股權所有者因某些安排而持有的回購權。

##### (ii) 中國法定公積金

根據本公司的《公司章程》規定，要求本公司將根據中國會計準則及法規確定的淨利潤10%轉為本公司的法定公積金，直至公積金剩餘總額達到註冊資本的50%。必須在向權益股東分配股息之前，提取該公積金。該公積金可以用於彌補本公司的累計虧損或增資，並且除清算之外不得進行分配。

##### (iii) 匯兌儲備

匯兌儲備包括根據財務報表附註2(z)規定的會計政策換算非人民幣為功能性貨幣的業務的財務報表時所產生的所有匯兌差額。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

### 38. CAPITAL, RESERVES AND DIVIDENDS (CONTINUED) 38. 資本、儲備及股息(續)

#### (d) Nature and purpose of reserves (Continued)

##### (iv) Fair value reserve (non-recycling)

The fair value reserve (non-recycling) comprises the cumulative net change in the fair value of equity investments designated at FVOCI under IFRS 9 that are held at the end of the reporting period (Note 2(n)).

#### (e) Distributability of reserves

In accordance with the Company's Article of Association, the net profit after tax of the Company for the purpose of dividends payment will be the lesser of (i) the net profit determined in accordance with the accounting rules and regulations of the PRC; and (ii) the net profit determined in accordance with IFRSs. As of 31 December 2021, the retained profits available for distribution were nil (2020: Nil).

#### (f) Capital management

The Group's primary objective for managing capital is to safeguard the Group's ability to continue as a going concern, so that it can continue to provide returns for equity shareholders and benefits for other stakeholders, by pricing products and services commensurately with the level of risk and by securing access to financing at a reasonable cost.

The Group actively and regularly reviews and manages its capital structure to maintain a balance between the higher equity shareholder returns that might be possible with higher levels of borrowings and the advantages and security afforded by a sound capital position and makes adjustments to the capital structure in light of changes in economic conditions.

The Group monitors its capital structure on the basis of liability-to-asset ratio, which is calculated as total liabilities divided by total assets. The liability-to-asset ratio of the Group was 65% (2020: 78%).

There were no changes in the Group's approach to capital management during the year. Neither the Company nor any of its subsidiaries are subject to externally imposed capital requirements.

#### (d) 儲備性質及用途(續)

##### (iv) 公允價值儲備(不重新計入)

公允價值儲備(不重新計入)包括於報告期末持有的，且根據國際財務報告準則第9號，將其指定為按公允價值計量且其變動計入其他綜合收益計量的金融資產(不重新計入)的公允價值的累計淨變動(附註2(n))。

#### (e) 儲備的可分配性

根據《公司章程》，作為股息分配的本公司稅後淨利潤應為以下兩者之中的孰低者：(i)按照中國會計準則及法規確定的淨利潤；(ii)按照國際會計報告準則確定的淨利潤。於2021年12月31日，可供分配的留存利潤額為零(2020年：零)。

#### (f) 資本管理

本集團資本管理的主要目標是，通過根據風險水準對產品和服務定價，以及按照合理的成本取得融資，以保障本集團持續經營的能力，從而可以持續向權益股東提供回報並向其他利益關聯方提供益處。

本集團積極並且定期地審查並管理本集團的資本結構，在較高的借款水準情況下向權益股東提供較高回報的同時，保持本集團具有較好的資本優勢及安全性，並按照經濟形勢不斷調整本集團的資本結構。

本集團根據負債對資產比率監控本集團的資本結構。本集團的負債對資產比率為65%(2020年：78%)。

本年度本集團的資本管理方法沒有發生變更。本公司或其任何附屬公司均未有受外界施加的資本要求。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

### 39. SHARE AWARD SCHEME

#### (a) Restricted Shares Incentive Plan by Longyuan Technology

On 25 February 2021, Longyuan Technology, a subsidiary of the Company, granted 9,364,000 restricted shares to incentive participants including directors (excluding independent directors), senior management and core technological backbones serving in Longyuan Technology at the grant price of RMB3.67 per share (“**Restricted Shares Incentive Plan**”). The source of the stock is the additional issuance of A-share ordinary shares of Longyuan Technology to the incentive participants. The validity period of this Restricted Shares Incentive Plan shall be from the date of resolution resolved of the general meeting of shareholders of Longyuan Technology to the date when all the restricted shares are released or repurchased, which shall be no more than 62 months. The restricted shares granted by this Restricted Shares Incentive Plan will be unlocked in three batches within 24 months to 48 months after the completion of the grant registration if the performance assessment target is satisfied. Upon the completion of the share subscription by the participants, the share of the interest by the Company in Longyuan Technology was diluted from 23.25% to 22.84% accordingly. Besides, according to the Restricted Shares Incentive Plan, if the performance assessment target of the restricted shares in a certain period of the sales restriction release period is not achieved, the restricted shares of all incentive participants in the current period cannot be lifted, and Longyuan Technology will repurchase such restricted shares at the lower of granted price and the market price on the date of the repurchase.

At the grant date, the difference between the fair value of the granted restricted shares and the grant price was approximately RMB1,561,000. The equity-settled share based payment expenses for 2021 was RMB250,000. Besides, an amount of RMB26,320,000 included in the capital reserve due to the capital injection of minority shareholders.

In August 2021, three incentive participants resigned and therefore their shares would not be unlocked. Longyuan Technology repurchased the shares granted to resigned employees with price of RMB3.572 per share (Grant price RMB3.67 per share – the dividend amount after the registration of restricted shares with RMB0.098 per share), and paid a repurchase payment of RMB642,960 (representing 180,000 shares) to the three resigned employees in November 2021.

### 39. 股權激勵計劃

#### (a) 煙台龍源限制性股票激勵計劃

2021年2月25日，國電科環子公司龍源技術向激勵對象(包含在龍源技術任職的董事(不包含獨立董事)、高級管理人員及核心技術骨幹)授予9,364,000股限制性股票，授予價格為人民幣3.67元/股(「**限制性股票激勵計劃**」)。股票來源為向激勵對象定向增發龍源技術A股普通股股票。該限制性股票激勵計劃的有效期自龍源技術股東大會通過之日起至激勵對象獲授的限制性股票全部解除限售或回購註銷之日止，最長不超過62個月。如果業績考核目標達成，該限制性股票激勵計劃授予的限制性股票將在授予登記完成之日起的24個月至48個月內分三批解鎖。激勵對象完認證後，公司在龍源技術的權益份額由23.25%相應攤薄至22.84%。此外，根據限制性股票激勵計劃，如果在某個解除限售期業績考核目標未達成，則所有激勵對象當期限限制性股票不可解除限售，龍源技術需按照授予價格和回購日的股票市場價格孰低進行回購。

於授予日，已授予限制性股份的公允價值與授予價之間的差額約為人民幣1,561,000元。2021年以權益結算的股份支付費用為人民幣250,000元。此外，由於少數股東注資，人民幣26,320,000元計入資本公積中。

2021年8月，有三名被激勵對象離職，因此他們持有的股份將不會被解鎖。龍源技術於2021年11月以每股人民幣3.572元(授予價格3.67元每股－限制性股票登記後每股派息額0.098元每股)回購這三名員工持有的股份，並向這三名離職員工支付人民幣642,960元(代表180,000股)的回購款。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

### 39. SHARE AWARD SCHEME (CONTINUED)

#### (b) Share Award Scheme by Longyuan Environmental

On 25 May 2021, the Board of the directors of the Company approved the share award scheme (“**Share Award Scheme I**”) of Longyuan Environmental. According to the Share Award Scheme I, Longyuan Environmental intends to award an aggregate of 84,894,737 shares, representing 5% of its total issued share capital immediately upon completion of the capital injection, to the employee shareholding platform, through which the grantees will hold their shares in Longyuan Environmental. On 26 May 2021, Beijing Xinyuan Juhe Management Technical Center Partnership, as the employees shareholding platform, signed the capital injection agreement (the “**Agreement I**”) with the Company and Longyuan Environmental. According to the Agreement I, the employees shareholding platform will inject a total cash of RMB135,368,421 by instalment. Up to 31 December 2021, the employees shareholding platform has injected approximately RMB107,084,000. Upon the completion of first instalment, the share of the interest by the Company in Longyuan Environmental was diluted from 100% to 96%.

Since the grant price of shares awarded to the grantees was determined according to the fair value of net assets per share of Longyuan Environmental, the difference between the grant price of awarded shares and the fair value of the awarded shares was minimal. Besides, the equity was diluted with an amount of RMB2,817,000 included in the capital reserve due to the capital injection of minority shareholders.

### 39. 股權激勵計劃(續)

#### (b) 龍源環保股權激勵計劃

2021年5月25日，本公司董事會批准了龍源環保的股權激勵計劃(「**股權激勵計劃一**」)。根據股權激勵計劃一，龍源環保通過員工持股平台注資的方式授於合計84,894,737股股份，佔注資完成後龍源環保已發行股本總額的5%。被授予人將通過員工持股平台持有其於龍源環保的股份。2021年5月26日，北京欣源聚合管理技術中心(有限合夥)，作為員工持股平台，與本公司及龍源環保簽訂了增資協議(「**協議一**」)。根據協議，員工持股平台將會以現金方式分期繳付出資總共人民幣135,368,421元。截至2021年12月31日，員工持股平台已實際注資約人民幣107,084,000元。第一期出資完成後，本公司在龍源環保的持股比例從100%稀釋至96%。

由於授予股份的授予價格是根據龍源環保每股淨資產公允價值確定的，因此授予股份的授予價格與授予股份的公允價值之間的差額很小。同時，由於少數股東注資，公司股份被稀釋，人民幣2,817,000元計入資本公積中。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

### 39. SHARE AWARD SCHEME (CONTINUED)

#### (c) Share Award Scheme by Guoneng I&C

On 19 November 2021, the Board of the directors of the Company approved the share award scheme (“**Share Award Scheme II**”) of Guoneng I&C. According to the Share Award Scheme II, Guoneng I&C intends to award an aggregate of 11,536,000 shares, representing 5% of its total issued share capital immediately upon completion of the capital injection, to the employee shareholding platform, through which the grantees will hold their shares in Guoneng I&C. On 23 September 2021, Hainan Xinkong Huizhi Enterprise Management Partnership (Limited Partnership) and Hainan Xinkong Huitong Enterprise Management Partnership (Limited Partnership), as the employees shareholding platform, signed the capital injection and equity transfer agreement (the “**Agreement II**”) with the Company and Guoneng I&C. According to the Agreement II, the employees shareholding platform will inject a total cash of RMB29,839,572 by instalment. Up to 31 December 2021, the employees shareholding platform has injected approximately RMB14,919,786.

Since the grant price of shares awarded to the grantees was determined according to the fair value of net assets per share of Guoneng I&C, the difference between the grant price of awarded shares and the fair value of the awarded shares was RMB63,000. Besides, the equity was diluted with a negative amount of RMB3,928,000 included in the capital reserve due to the capital injection of minority shareholders.

### 39. 股權激勵計劃(續)

#### (c) 國能信控股權激勵計劃

2021年11月19日，本公司董事會批准國能信控的股權授予計劃(「**股份授予計劃二**」)。根據股權授予計劃二，國能信控通過員工持股平台注資的方式授於合計11,536,000股股份，佔注資完成後國能信控已發行股本總額的5%。被授予以人將通過員工持股平台持有其於龍源環保的股份。2021年9月23日，海南信控匯智企業管理合夥企業(有限合夥)、海南信控慧通企業管理合夥企業(有限合夥)，作為員工持股平台，與本公司簽訂《增資及股權轉讓協議》(「**協議二**」)。根據該協議，國能信控的員工持股平台，將分期支付認購價款合計人民幣29,839,572元。截止2021年12月31日，員工持股平台繳付股份認購款人民幣14,919,786元。

由於授予股份的授予價格是根據國能信控每股淨資產公允價值確定的，因此授予股份的授予價格與授予股份的公允價值之間的差額為人民幣63,000元。此外，由於少數股東注資，股權被稀釋，負人民幣3,928,000元計入資本公積中。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

### 40. DISPOSAL OF SUBSIDIARIES

- (a) On 16 June 2021, the Company, China Energy, Longyuan Power and United Power entered into the Equity Transfer and Capital Injection Agreement, pursuant to which the Company conditionally agreed to dispose of approximately 15.68% equity interest in United Power to China Energy at a consideration of RMB407,681,944 (the “**Disposal I**”). Immediately upon completion of the Equity Transfer, China Energy and Longyuan Power will make capital injection of approximately RMB1,474,662,400 and RMB631,998,172 into United Power, respectively, which will result in a further dilution of the Company’s equity interest in United Power to 30%.

The Disposal I comprises the Equity Transfer and the Capital Injection which are part and parcel of each other and shall be completed simultaneously pursuant to the Equity Transfer and Capital Injection Agreement. In this respect, the Equity Transfer and the Capital Injection are regarded as inter-conditional on each other.

Upon Completion, the total registered and paid-in capital of United Power will be RMB3,870,000,000 owned as to RMB1,548,000,000 (equivalent to 40% of the total registered capital of United Power) by China Energy and RMB1,161,000,000 (equivalent to 30% of the total registered capital of United Power) each by the Company and Longyuan Power, respectively. Therefore, United Power will cease to be a subsidiary of the Company and its financial results will no longer be consolidated into the financial statements of the Group.

The Disposal I was completed on 11 October 2021 (“**Disposal I Date**”) and a gain of RMB1,091,537,000 was recognized by the Group upon the completion of the Disposal I.

### 40. 處置子公司

- (a) 於2021年6月16日，本公司、國家能源集團、龍源電力及聯合動力訂立股權轉讓及注資協議，據此，本公司有條件同意向國家能源集團出售聯合動力約15.68%的股權(「**出售事項一**」)，代價為人民幣407,681,944元。緊接股權轉讓完成後，國家能源集團及龍源電力將分別向聯合動力注資約人民幣1,474,662,400元及人民幣631,998,172元，導致本公司于聯合動力的股權進一步攤薄至30%。

出售事項一包括股權轉讓及注資，根據股權轉讓及注資協議兩者不可分割，並應同時完成。就此而言，股權轉讓及注資被視為互為條件。

上述交易完成後，聯合動力的註冊資本總額將變為人民幣3,870,000,000元，其中國家能源集團佔有人民幣1,548,000,000元(相當於聯合動力註冊資本總額的40%)，本公司和龍源電力分別佔有人民幣1,161,000,000元人民幣(相當於聯合動力註冊資本總額的30%)。因此，聯合動力將不再是本公司的附屬公司，其財務業績將不再併入本集團的財務報表。

出售項目一於2021年10月11日(「**出售日一**」)完成，隨著出售事項的完成，本集團確認人民幣1,091,537,000元收益。

## NOTES TO FINANCIAL STATEMENT (CONTINUED)

### 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

#### 40. DISPOSAL OF SUBSIDIARIES (CONTINUED)

#### 40. 處置子公司(續)

		As at Disposal Date 於出售日一 RMB'000 人民幣千元
Net assets disposed of:	處置淨資產：	
Property, plant and equipment	物業、廠房及設備	1,497,105
Intangible assets	無形資產	95,778
Investment properties	投資性物業	2,282
Other non-current assets	其他非流動資產	1,495,358
Deferred tax assets	遞延稅項資產	254,338
Inventories	存貨	3,215,183
Contract assets	合同資產	909,974
Trade and bills receivables	應收賬款及票據	2,671,653
Deposits, prepayments and other receivables	按金、預付款項及其他應收款項	418,477
Restricted deposits	受限制存款	170,903
Cash at bank and in hand	銀行存款及庫存現金	398,182
Short-term borrowings	短期借款	(3,380,000)
Trade and bills payables	應付帳款及票據	(4,728,973)
Other payables and contract liabilities	其他應付款項	(293,882)
Contract liabilities	合同負債	(1,105,540)
Income tax payable	應付所得稅	(6,080)
Provision for warranty	質保金撥備	(500,404)
Long-term borrowings	長期借款	(261,168)
Deferred tax liabilities	遞延稅項負債	(6,115)
Lease liabilities	租賃負債	(704)
Deferred income	遞延收益	(122,449)
Other non-current liabilities	其他非流動負債	(652,526)
Non-controlling interests	非控股權益	(21,418)
		49,974
Total cash consideration from equity transfer	股權轉讓的現金對價總額	407,682
Recognition of interest in an associate (Note (i))	剩餘股權價值(附註(i))	733,829
Less: Derecognition of net assets of United Power attributable to the Company (Note (ii))	減去：本公司享有的聯合動力資產淨值(附註(ii))	49,974
Gain on disposal of United Power	處置子公司收益	1,091,537



## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

### 40. DISPOSAL OF SUBSIDIARIES (CONTINUED)

An analysis of the net inflow/outflow of cash and cash equivalents in respect of the disposal of United Power is as follows:

### 40. 處置子公司(續)

處置聯合動力的現金及現金等價物的淨現金流入分析如下所示：

		2021 RMB'000 人民幣千元 (Audited) 審定數
Cash consideration	收到的現金對價	407,682
Cash and bank balances disposed of	處置子公司的現金減少	(398,182)
Net inflow of cash and cash equivalents in respect of the disposal of United Power	處置聯合動力的現金及現金等價物淨流入	9,500

Notes:

- (i) The amount represents the fair value of 30% shareholding in the United Power as at Disposal I Date.
- (ii) The amount represents 70% of the net book assets of the United Power attributable to the Company before the Disposal.
- (b) On 19 April 2021, Guoneng Lucency Environment and Technology Co., Ltd. (“**Lucency**”), a wholly-owned subsidiary of the Company, and Goldwind Environmental Protection Co., Ltd. (“**Goldwind Environmental**”) entered into the equity transfer transaction agreement (the “**Transaction Agreement**”), pursuant to which Lucency agreed to dispose of, and Goldwind Environmental agreed to acquire, 70% of the equity interest in Guodian Galaxy Water at a consideration of RMB514,983,000 (the “**Disposal II**”). According to the Transaction Agreement, 55% of the consideration, being RMB283,240,650 shall be paid to Lucency within three business days after completing the changes in industrial and commercial registration of Guodian Galaxy Water. The remaining 45% of the consideration, being RMB231,742,350, together with interest thereon (if any) calculated based on the current benchmark interest rate for loans at the time of signing the Transaction Agreement and up to the relevant settlement date shall be paid to Lucency within one year from the effective date of the Transaction Agreement. Goldwind Environmental should provide the legitimate and effective guarantee for Lucency for the remaining 45% of the consideration and the related interest.

附註：

- (i) 該金額為出售日一聯合動力30%股權的公允價值。
- (ii) 該金額代表聯合動力在出售前歸屬於本公司的賬面資產淨值的70%。
- (b) 2021年4月19日，本公司全資附屬公司國能朗新明環保科技有限公司（「**朗新明**」）與金風環保有限公司（「**金風環保**」）簽訂產權交易合同（「**交易合同**」），據此，朗新明同意出售，而金風環保同意收購國電銀河水務70%股權，對價為人民幣514,983,000元（「**出售事項二**」）。根據交易合同，對價的55%，即人民幣283,240,650元，須於國電銀河水務完成工商登記變更後三個營業日內支付給朗新明。剩餘45%的對價，即人民幣231,742,350元，連同其利息（如有），並按簽訂交易合同時的同期貸款基準利率計算，計算直至相關結算日期，須於交易合同生效日期起計一年內支付給朗新明。金風環保應對上述剩餘45%股權轉讓對價及相關利息向朗新明提供合法有效的擔保。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

### 40. DISPOSAL OF SUBSIDIARIES (CONTINUED)

Besides, pursuant to the Transaction Agreement, as at 15 March 2021, Guodian Galaxy Water owed Lucency financing debts of RMB579,500,000, project quality guarantee funds of RMB9,578,800, interests on shareholder's loans of RMB8,732,900 and project management service fees of RMB1,000,000. The aforesaid amounts shall be repaid by Guodian Galaxy Water or Goldwind Environmental within one year from the effective date of the Transaction Agreement or pursuant to the terms of the relevant contracts pertaining to the aforesaid amounts. Goldwind Environmental should also provide the legitimate and effective guarantee for Lucency for the aforesaid amounts.

On 3 June 2021, Xinjiang Goldwind Finance Co., Ltd. (“**Goldwind Finance**”), which was under common control of the immediate holding company of Goldwind Environmental, provided the guarantee for Lucency with a total amount of RMB830,901,100 (including the guarantee for the remaining 45% of the consideration and related interest of RMB241,823,100 and the guarantee for the aforesaid various debts of RMB589,078,800).

The Disposal II was completed on 7 June 2021 (“**Disposal II Date**”) and a loss of RMB108,155,000 was recognized by the Group upon the completion of the Disposal.

### 40. 處置子公司(續)

此外，根據交易合同，於2021年3月15日，國電銀河水務欠朗新明融資債務人民幣579,500,000元、工程質量保證金人民幣9,578,800元、股東借款利息人民幣8,732,900元及項目管理服務費人民幣1,000,000元。上述金額須由國電銀河水務或金風環保自交易合同生效日期起一年內或根據與上述金額相關的合同條款償還。金風環保應對上述金額向朗新明提供合法有效的擔保。

2021年6月3日，金風環保的關聯方，即同受金風環保直接控股母公司控制的新疆金風科技集團財務有限公司(「**金風財務**」)，向朗新明實際提供總金額為人民幣830,901,100元的擔保(包含對剩餘45%的對價及相關利息的擔保金額人民幣241,823,100元和對上述債務的擔保金額人民幣589,078,800元)。

出售事項二於2021年6月7日(「**出售日二**」)完成，隨著出售事項的完成，本集團確認人民幣108,155,000元的損失。

## NOTES TO FINANCIAL STATEMENT (CONTINUED)

### 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

#### 40. DISPOSAL OF SUBSIDIARIES (CONTINUED)

#### 40. 處置子公司(續)

		As at Disposal II Date 於出售日二 RMB'000 人民幣千元
Net assets disposed of:	處置淨資產：	
Property, plant and equipment	物業、廠房及設備	11,072
Intangible assets	無形資產	350,568
Interests in an associate	對聯營公司的投資	16,834
Other non-current assets	其他非流動資產	1,359,011
Deferred tax assets	遞延所得稅資產	7,232
Inventories	存貨	6,231
Trade and bills receivables	應收賬款及票據	277,635
Deposits, prepayments and other receivables	按金、預付款項及其他應收款項	65,811
Cash at bank and in hand	銀行存款及庫存現金	18,498
Short-term borrowings	短期借款	(719,487)
Trade and bills payables	應付帳款及票據	(48,993)
Other payables and contract liabilities	其他應付款項	(13,894)
Income tax payable	應付所得稅	(1,030)
Long-term borrowings	長期借款	(428,987)
Deferred tax liabilities	遞延所得稅負債	(129,538)
Non-controlling interests	非控股權益	(231,289)
		539,674
Advance Payment by Lucency (Note (i))	朗新明代墊款(附註(i))	31,177
Goodwill (Note (ii))	商譽(附註(ii))	52,287
		623,138
Loss on disposal of a subsidiary	處置子公司損失	(108,155)
		514,983
Satisfied by:	對價形式：	
Cash	現金	514,983

**Notes:**

- (i) Advance payment by Lucency represented the payment made by Lucency on the behalf of Guodian Galaxy Water for acquiring 38% of the equity interest of an associate of Guodian Galaxy Water in the year of 2012. The interests in an associate was also disposed in line with the disposal of Guodian Galaxy Water, such advance payment was recognized into loss on disposal of Guodian Galaxy Water upon the completion of the Disposal II.
- (ii) Goodwill represented the goodwill arising from the acquisition of 70% of the equity interest of Guodian Galaxy Water by Lucency during the year of 2012.

**附註：**

- (i) 朗新明代墊款是指朗新明在2012年替國電銀河水務支付的為獲取國電銀河水務聯營公司38%股權的款項。由於國電銀河水務已處置，該聯營公司的股權也隨之被處置，該代墊款隨著出售事項的完成而直接計入處置子公司損失。
- (ii) 商譽是指2012年朗新明收購銀河水務70%股權時產生。

## NOTES TO FINANCIAL STATEMENT (CONTINUED)

### 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

#### 40. DISPOSAL OF SUBSIDIARIES (CONTINUED)

An analysis of the net inflow of cash and cash equivalents in respect of the disposal of Guodian Galaxy Water is as follows:

		2021 RMB'000 人民幣千元
Partial of cash consideration received	部分收到的現金對價	283,241
Cash and bank balances disposed of	處置子公司的現金減少	(18,498)
Net inflow of cash and cash equivalents in respect of the disposal of Guodian Galaxy Water	處置銀河水務的現金及現金等價物淨流入	264,743

#### 40. 處置子公司(續)

處置銀河水務的現金及現金等價物的淨現金流入分析如下所示：

(c) On 21 October 2021, Guoneng Longyuan Environmental Co., Ltd. (Longyuan Environmental) and APA International Investments Pty Limited (“**APA**”) entered into the equity transfer agreement, pursuant to which Longyuan Environmental agreed to transfer its 67.46% equity interest in Jiangsu Deke Environmental Equipment Co., Ltd. (“Jiangsu Deke”), a subsidiary of Longyuan Environmental, to APA at a consideration of RMB32,786,000 (the “Disposal III”). Longyuan Environmental received all the transaction consideration before 31 December 2021. On November 8, 2021 (“Disposal III Date”), Jiangsu Deke completed the registration of changes in shareholders and legal representatives, and Longyuan Environmental lost control over Jiangsu Deke on the same date.

The Disposal III was completed on 8 November 2021 (“**Disposal III Date**”) and a gain of RMB31,418,000 was recognized by the Group upon the completion of the Disposal III.

(c) 2021年10月21日，龍源環保與APA International Investments Pty Limited (「**APA**」)簽訂產權交易合同，根據產權交易合同，龍源環保將其持有的江蘇德克67.46%的股權以對價人民幣32,786,000元轉讓給APA公司出售事項三)。在2021年12月31日前，龍源環保收到APA公司支付的全部交易對價款。2021年11月8日(「出售日三」)，江蘇德克完成股東和法定代表人變更登記，龍源環保同日失去對江蘇德克的控制權。

出售事項三於2021年11月8日(「**出售日三**」)完成，隨著出售事項的完成，本集團確認人民幣31,418,000元的收益。

## NOTES TO FINANCIAL STATEMENT (CONTINUED)

### 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

#### 40. DISPOSAL OF SUBSIDIARIES (CONTINUED)

#### 40. 處置子公司(續)

		As at Disposal III Date 於出售日三 RMB'000 人民幣千元
Net assets disposed of:	處置淨資產：	
Property, plant and equipment	物業、廠房及設備	30,338
Intangible assets	無形資產	108
Inventories	存貨	7,696
Trade and bills receivables	應收賬款及票據	2,344
Deposits, prepayments and other receivables	按金、預付款項及其他應收款項	1,279
Cash at bank and in hand	銀行存款及庫存現金	579
Trade and bills payables	應付帳款及票據	(8,606)
Other payables and contract liabilities	其他應付款項	(31,709)
Income tax payable	應付所得稅	(1)
Non-controlling interests	非控股權益	(660)
		1,368
Gain on disposal of a subsidiary	處置子公司收益	31,418
		32,786
Satisfied by:	對價形式：	
Cash	現金	32,786

An analysis of the net inflow of cash and cash equivalents in respect of the disposal of Jiangsu Deke is as follows:

處置江蘇德克的現金和現金等價物的淨流入如下：

		2021 RMB'000 人民幣千元
Cash consideration	部分收到的現金對價	32,786
Cash and bank balances disposed of	處置江蘇德克的現金減少	(579)
Net inflow of cash and cash equivalents in respect of the disposal of Jiangsu Deke	處置江蘇德克的現金及現金等價物淨流入	32,207

d) Lucency held 80% equity interest of Taiyuan Lucency. In January 2021, Taiyuan Lucency was deregistered, from which a decrease in non-controlling interest of RMB30,052,000.

(d) 朗新明持有太原朗新明80%股權的股份。2021年1月，太原朗新明註銷，非控制性權益減少30,052,000元。

## NOTES TO FINANCIAL STATEMENT (CONTINUED)

### 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

#### 41. FINANCIAL INSTRUMENTS BY CATEGORY

#### 41. 按類別劃分金融工具

The carrying amounts of each of the categories of financial instruments as at the end of the reporting period are as follows:

截至報告期末，各類金融工具的賬面價值如下：

2021

2021

Financial assets	金融資產	Financial assets at fair value through other comprehensive income			Total
		Debt investments	Equity investments	Financial assets at amortised cost	
		債務工具	權益工具	以攤餘成本計量的金融資產	合計
		RMB'000	RMB'000	RMB'000	RMB'000
		人民幣千元	人民幣千元	人民幣千元	人民幣千元
Other equity investments	其他權益工具投資	-	2,289,712	-	2,289,712
Other non-current financial assets	其他非流動資產	-	-	220,265	220,265
Trade and bills receivables	應收票據及應收賬款	1,111,346	-	4,587,293	5,698,639
Financial assets included in deposits, prepayments and other receivables (Note 27)	計入押金、預付款項及其他應收款項的金融資產(附註27)	-	-	674,024	674,024
Restricted deposits	受限制存款	-	-	104,777	104,777
Cash at bank and in hand	銀行存款及庫存現金	-	-	4,820,740	4,820,740
		1,111,346	2,289,712	10,407,099	13,808,157

Financial liabilities	金融負債	Financial liabilities at amortised cost		Total
		以攤餘成本計量的金融負債		
		RMB'000		RMB'000
		人民幣千元		人民幣千元
Borrowings – current	短期借款		4,222,619	4,222,619
Trade and bills payables	應付票據及應付賬款		6,441,443	6,441,443
Financial liabilities included in other payables and accruals (Note 32)	計入其他應付款項的金融負債(附註32)		963,233	963,233
Borrowings – non-current	長期借款		1,969,857	1,969,857
Lease liabilities – non-current	租賃負債 – 非流動部分		95,884	95,884
Other non-current liabilities	其他非流動負債		234,971	234,971
			13,928,007	13,928,007

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

### 41. FINANCIAL INSTRUMENTS BY CATEGORY (CONTINUED)      41. 按類別劃分金融工具(續)

The carrying amounts of each of the categories of financial instruments as at the end of the reporting period are as follows:  
(Continued)

截至報告期末，各類金融工具的賬面價值如下：(續)

2020		2020			
Financial assets	金融資產	Financial assets at fair value through other comprehensive income 以公允價值計量且其變動計入其他綜合收益的金融資產			Total 合計
		Debt investments 債務工具 RMB'000 人民幣千元	Equity investments 權益工具 RMB'000 人民幣千元	Financial assets at amortised cost 以攤餘成本計量的金融資產 RMB'000 人民幣千元	
Other equity investments	其他權益工具投資	-	2,227,673	-	2,227,673
Other non-current financial assets	其他非流動資產	-	-	880,203	880,203
Trade and bills receivables	應收票據及應收賬款	1,827,484	-	6,849,302	8,676,786
Financial assets included in deposits, prepayments and other receivables (Note 27)	計入押金、預付款項及其他應收款項的金融資產 (附註27)	-	-	1,018,853	1,018,853
Restricted deposits	受限制存款	-	-	420,368	420,368
Cash at bank and in hand	銀行存款及庫存現金	-	-	5,283,197	5,283,197
		1,827,484	2,227,673	14,451,923	18,507,080
Financial liabilities		Financial liabilities at amortised cost 以攤餘成本計量的金融負債 RMB'000 人民幣千元			Total 合計
Borrowings – current	短期借款		7,400,446		7,400,446
Trade and bills payables	應付票據及應付賬款		10,715,283		10,715,283
Financial liabilities included in other payables and accruals (Note 32)	計入其他應付款項的金融負債 (附註32)		1,101,708		1,101,708
Borrowings – non-current	長期借款		4,435,119		4,435,119
Lease liabilities – non-current	租賃負債 – 非流動部分		70,846		70,846
Other non-current liabilities	其他非流動負債		675,675		675,675
			24,399,077		24,399,077

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

### 42. FINANCIAL RISK MANAGEMENT AND FAIR VALUES

Exposure to credit, liquidity, interest rate and currency risks arises in the normal course of the Group's business.

The Group's exposure to these risks and the financial risk management policies and practices used by the Group to manage these risks are described below:

#### (a) Credit risk

Credit risk refers to the risk that a counterparty will default on its contractual obligations resulting in a financial loss to the Group. The Group's credit risk is primarily attributable to cash at bank and in hand, restricted deposits, trade and bills receivables, deposits and other receivables, long-term trade receivables and contract assets. The Group's exposure to credit risk arising from cash at bank is limited because the counterparties are banks and financial institutions with high credit standing, for which the Group considers to have low credit risk.

The Group does not provide any guarantees which would expose the Group to credit risk.

The Group's exposure to credit risk is influenced mainly by the individual characteristics of each customer rather than the industry or country in which the customers operate, and therefore, significant concentrations of credit risk primarily arise when the Group has significant exposure to individual customers. At the end of the reporting period, 35% and 15% (2020: 37% and 9%) of the total of trade and bills receivables, deposits and other receivables, long-term trade receivables and contract assets were due from China Energy and related parties under China Energy, the Group's largest customer, and the remaining five largest customers, respectively.

Individual credit evaluations are performed on all customers. These evaluations focus on the customer's past history of making payments when due and the current ability to pay and take into account information specific to the customer as well as pertaining to the economic environment in which the customer operates. The Group generally requires customers to settle trade receivables in accordance with contract terms and other debts in accordance with agreements. Credit terms may be granted to customers, depending on the nature of business. Normally, the Group does not obtain collateral from customers.

### 42. 財務風險管理及公允價值

本集團的正常業務過程中存在信用、流動性、利率以及貨幣風險。

本集團面臨的此等風險以及本集團的財務風險管理政策及措施如下所述：

#### (a) 信用風險

信用風險指交易對手違背其合約責任導致本集團財務虧損的風險。本集團的信用風險主要來自銀行存款及庫存現金，受限存款，應收賬款及票據，按金及其他應收款項，長期應收款和合同資產。本集團承受的銀行現金信貸風險有限，因為交易對手是信譽良好的銀行和金融機構，因此本集團評估認為其信用風險較低。

本集團未提供任何會使本集團承受信用風險的其他擔保。

本集團的信用風險主要受到每個客戶的具體情況影響，而不會受到客戶所從事行業或所處國家的影響，因此，當本集團頻繁地接觸個別客戶時，信用風險的集中度就會增加。於報告期末，分別有35%與15% (2020年：37%與9%) 的應收賬款及票據、按金及其他應收款、長期應收款及合同資產來自於國家能源集團及國家能源集團下屬的關聯方(本集團最大的客戶)和其餘的前五大客戶。

已對所有客戶進行了單獨信用評估。評估針對客戶過去的到期款項支付歷史及目前的支付能力，並考慮了客戶的具體情況，以及客戶營業所在地的整體經濟環境。總體上，本集團要求客戶按照合同條款結算應收賬款，並按照協議規定結清其他欠款。根據業務性質，可能會給予客戶一定的付款信用期限。通常，本集團不向客戶收取抵押物。



## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

### 42. FINANCIAL RISK MANAGEMENT AND FAIR VALUES (CONTINUED) 42. 財務風險管理及公允價值(續)

#### (a) Credit risk (Continued)

The Group measures loss allowances for trade receivables and contract assets that do not contain a significant financing component at an amount equal to lifetime ECLs, which is calculated using a provision matrix.

And the Group measures loss allowances for trade receivables and contract assets that contain a significant financial component, bills receivable, deposits and other receivables at an amount equal to 12-month ECLs or lifetime ECLs upon whether the credit risk has increased significantly after the initial recognition.

#### **Maximum exposure and year-end staging**

The tables below show the credit quality and the maximum exposure to credit risk based on the Group's credit policy and year-end staging classification as at 31 December.

#### (a) 信用風險(續)

本集團計量不包含重大融資成分的應收賬款和合同資產的損失準備金，其金額等於整個存續期預期信用損失，並使用準備金矩陣進行計算。

對於含有重大融資成分的應收賬款及合同資產，應收票據、按金及其他應收款，根據初始確認後信用風險是否顯著增加來估計其12個月的預期信用損失或整個存續期的預期信用損失。

#### **最大信用風險敞口及年末所處階段**

下表根據集團的信貸政策和截至12月31日的年末所處階段分類顯示了信貸質量和最大信用風險敞口。



## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

### 42. FINANCIAL RISK MANAGEMENT AND FAIR VALUES (CONTINUED) 42. 財務風險管理及公允價值(續)

#### (a) Credit risk (Continued)

#### (a) 信用風險(續)

##### Maximum exposure and year-end staging (Continued)

##### 最大信用風險敞口及年末所處階段 (續)

As at 31 December 2021	於2021年12月31日	12-month ECLs 十二個月 預期信貸 損失		Lifetime ECLs 期限內預期信貸損失			POCI 初始確認時 已減值資產 RMB'000 人民幣千元	Total 合計 RMB'000 人民幣千元
		Stage 1 第一階段 RMB'000 人民幣千元	Stage 2 第二階段 RMB'000 人民幣千元	Stage 3 第三階段 RMB'000 人民幣千元	Simplified approach 簡化方法 RMB'000 人民幣千元			
Long-term receivables	長期應收款	221,906	-	14,396	-	-	236,302	
Contract assets	合同資產	248,028	-	-	2,740,634	-	2,988,662	
Trade receivables	應收賬款	262,209	-	-	5,387,648	-	5,649,857	
Bills receivable	應收票據	1,562,373	-	-	-	-	1,562,373	
Financial assets included in deposits, prepayments and other receivables	計入押金、預付款項及 其他應收款項的金融 資產							
- Normal*	- 正常*	533,431	-	-	-	-	533,431	
- Doubtful*	- 可疑*	-	693,787	373,259	-	-	1,067,046	
Restricted deposits	受限制存款							
- Not yet past due	- 尚未逾期	104,777	-	-	-	-	104,777	
Cash at bank and in hand	銀行存款及庫存現金							
- Not yet past due	- 尚未逾期	4,820,740	-	-	-	-	4,820,740	
		7,753,464	693,787	387,655	8,128,282	-	16,963,188	

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
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### 42. FINANCIAL RISK MANAGEMENT AND FAIR VALUES (CONTINUED)      42. 財務風險管理及公允價值(續)

#### (a) Credit risk (Continued)

#### (a) 信用風險(續)

##### Maximum exposure and year-end staging (Continued)

##### 最大信用風險敞口及年末所處階段(續)

		12-month ECLs 十二個月 預期信貸 損失		Lifetime ECLs 期限內預期信貸損失			Simplified approach	POCI 初始確認時 已減值資產	Total 合計
		Stage 1 第一階段 RMB'000 人民幣千元	Stage 2 第二階段 RMB'000 人民幣千元	Stage 3 第三階段 RMB'000 人民幣千元	Stage 3 第三階段 RMB'000 人民幣千元	Stage 3 第三階段 RMB'000 人民幣千元			
As at 31 December 2020	於2020年12月31日								
Long-term receivables	長期應收款	737,611		14,926			147,065	899,602	
Contract assets	合同資產	1,004,384				4,190,793		5,195,177	
Trade receivables	應收賬款	494,646				7,953,719		8,448,365	
Bills receivable	應收票據	1,960,169						1,960,169	
Financial assets included in deposits, prepayments and other receivables	計入押金、預付款項及其他應收款項的金融資產								
– Normal*	– 正常*	815,375						815,375	
– Doubtful*	– 可疑*		667,334	476,032			27,068	1,170,434	
Restricted deposits	受限制存款								
– Not yet past due	– 尚未逾期	420,368						420,368	
Cash at bank and in hand	銀行存款及庫存現金								
– Not yet past due	– 尚未逾期	5,283,197						5,283,197	
		10,715,750	667,334	490,958		12,144,512	174,133	24,192,687	

\* The credit quality of the financial assets included in deposits, prepayments and other receivables is considered to be “normal” when they are not past due and there is no information indicating that the financial assets had a significant increase in credit risk since initial recognition. Otherwise, the credit quality of the financial assets is considered to be “doubtful”.

\* 按金、預付款項和其他應收款項中的金融資產的信用質量在未到期且沒有信息表明該金融資產自初始確認以來信用風險顯著增加時，被認為是「正常」。否則，金融資產的信用質量被認為是「可疑」。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

### 42. FINANCIAL RISK MANAGEMENT AND FAIR VALUES (CONTINUED) 42. 財務風險管理及公允價值(續)

#### (b) Liquidity risk

The Group's objective is to ensure continuity of sufficient funding and flexibility by utilising a variety of bank loans and other borrowings with debt maturities spreading over a range of periods, thereby ensuring that the Group's outstanding borrowing obligation is not exposed to excessive repayment risk in any one year.

The Company is responsible for the Group's overall cash management and the raising of borrowings to cover expected cash demands. The Group's policy is to regularly monitor current and expected liquidity requirements to ensure that it maintains sufficient reserves of cash and adequate committed lines of funding from major financial institutions to meet its liquidity requirements in the short and longer term.

In order to enhance the Group's liquidity and solvency position, the Group has taken a series of measures and the directors of the Company are satisfied that the Group will have necessary liquid funds to finance its working capital and capital expenditure requirements according to the Group's business plan and cash flow forecast. With regard to its future capital commitments and other financing requirements, the Group has unutilised banking facilities of RMB7,580,261,436 (2020: RMB14,254,901,272) as at 31 December 2021. The directors of the Company are of the opinion that the assumptions which are included in the cash flow forecast are reasonable. However, all assumptions, in regard to future events, are subject to inherent limitations and uncertainties and some or all of these assumptions may not be realised.

#### (b) 流動性風險

為保證本集團具有足夠的連續資金以及資金靈活性，本集團採用多元化的銀行貸款及其他借款，債務到期日期較為分散，從而使本集團的還款義務不會過度地集中於任何一個年度。

本公司負責本集團的整體現金管理以及滿足所有現金需求的借款事宜。根據本集團的財務政策，本集團定期監控流動資金及預計流動資金的需求性，確保本集團具有足夠的現金儲備，並在主要金融機構中具有適當的資金承諾額度，從而滿足本集團長期以及短期的流動資金需求。

為了增強集團的資金流動性和償債能力，本集團已採取了多重措施。根據本集團的商業計劃和現金流量預測，公司董事同意本集團採用必要的流動資金為其運營資本和資本支出需求提供資金支持。關於本集團未來的資金承擔及其他融資要求，於2021年12月31日，本集團未動用銀行授信約為人民幣7,580,261,436元(2020年：人民幣14,254,901,272元)。本公司董事們認為，現金流預計的假設條件是合理的。然而，關於未來事件的所有假設條件本身均具有局限性及不確定性，某些或者所有此類假設條件均可能不會實現。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

### 42. FINANCIAL RISK MANAGEMENT AND FAIR VALUES (CONTINUED)      42. 財務風險管理及公允價值(續)

#### (b) Liquidity risk (Continued)

The following tables show the remaining contractual maturities at the end of the reporting period of the Group's non-derivative financial liabilities, which are based on contractual undiscounted cash flows (including interest payments computed using contractual rates or, if floating, based on rates current at the end of the reporting period) and the earliest date the Group can be required to pay:

#### (b) 流動性風險(續)

下表列出了於報告期末，本集團非衍生金融負債的剩餘合同期限，依據是合同未貼現現金流(包括根據合同利率計算的利息款額，如果採用浮動利率，即為根據報告期末的利率計算的利息款額)，以及可能要求本集團支付的最早日期：

		2021					
		Contractual undiscounted cash outflow 合同未折現現金流出					Carrying amount 賬面價值 RMB'000 人民幣千元
		Within 1 year or 1年或以下 RMB'000 人民幣千元	More than 1 year but less than 2 years 1-2年 RMB'000 人民幣千元	More than 2 years but less than 5 years 2-5年 RMB'000 人民幣千元	More than 5 years 5年以上 RMB'000 人民幣千元	Total 合計 RMB'000 人民幣千元	
Long-term borrowings (Note 30(a))	長期借款(附註30(a))	204,128	321,470	1,631,364	126,278	2,283,240	1,969,857
Short-term borrowings (Note 30(b))	短期借款(附註30(b))	4,247,144	-	-	-	4,247,144	4,222,619
Trade and bills payables (Note 31)	應付賬款及應付票據(附註31)	6,441,443	-	-	-	6,441,443	6,441,443
Other payables and accruals (Note 32)	其他應付款(附註32)	923,440	-	-	-	923,440	923,440
Other non-current liabilities (Note 37)	其他非流動負債(附註37)	-	-	234,971	-	234,971	234,971
Lease liabilities (Note 17)	租賃負債(附註17)	45,685	14,306	33,403	48,470	141,864	135,677

		2020					
		Contractual undiscounted cash outflow 合同未折現現金流出					Carrying amount 賬面價值 RMB'000 人民幣千元
		Within 1 year or 1年或以下 RMB'000 人民幣千元	More than 1 year but less than 2 years 1-2年 RMB'000 人民幣千元	More than 2 years but less than 5 years 2-5年 RMB'000 人民幣千元	More than 5 years 5年以上 RMB'000 人民幣千元	Total 合計 RMB'000 人民幣千元	
Long-term borrowings (Note 30(a))	長期借款(附註30(a))	294,143	291,851	4,318,479	154,399	5,058,872	4,435,119
Short-term borrowings (Note 30(b))	短期借款(附註30(b))	7,519,138	-	-	-	7,519,138	7,400,446
Trade and bills payables (Note 31)	應付賬款及應付票據(附註31)	10,715,283	-	-	-	10,715,283	10,715,283
Other payables (Note 32)	其他應付款(附註32)	1,039,606	-	-	-	1,039,606	1,039,606
Other non-current liabilities (Note 37)	其他非流動負債(附註37)	-	235,069	495,993	99,729	830,791	675,675
Lease liabilities (Note 17)	租賃負債(附註17)	69,148	18,474	34,932	15,303	137,857	132,948

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

### 42. FINANCIAL RISK MANAGEMENT AND FAIR VALUES (CONTINUED) 42. 財務風險管理及公允價值(續)

#### (c) Interest rate risk

The Group's interest rate risk arises primarily from long-term borrowings. Borrowings issued at variable rates expose the Group to cash flow interest rate risk.

The Group regularly reviews and monitors the mix of fixed and variable rate borrowings in order to manage its interest rate risks. During the year, however, the management of the Group did not consider that it is necessary to use interest rate swaps to hedge their exposure to interest.

#### (i) Sensitivity analysis

At 31 December 2021, it was estimated that for a general increase/decrease of 100 basis points in interest rates of net floating borrowings, with all other variables held constant, the Group's loss after tax would have increased/decreased and accumulated losses would have increased/decreased by approximately RMB128,000 (2020: profit after tax would have decreased/increased and accumulated losses would have increased/decreased by approximately RMB727,000). Other components of consolidated equity would not be affected by the general increase/decrease in interest rates.

The sensitivity analysis above has been determined assuming that the change in interest rates had occurred at the end of the reporting period and had been applied to the exposure to interest rate risk for non-derivative financial instruments in existence at the end of the reporting period. The impact on the Group's loss after tax (and accumulated losses) and other components of consolidated equity is estimated as an annualised impact on interest expense or income of such a change in interest rates.

The estimated 100 basis point increase or decrease represents management's assessment of a reasonable change in interest rates over the period until the next annual statement of financial position date. The analysis is performed on the same basis for 2020.

#### (c) 利率風險

本集團的利率風險主要來自於長期借款。浮動利率借款使本集團暴露於現金流利率風險之下。

為了管理本集團的利率風險，本集團定期審查並監控固定利率及浮動利率借款的組合。然而，本集團管理層認為在本年度無需通過利率掉期，對沖本集團的利率風險。

#### (i) 敏感度分析

於2021年12月31日，預計淨浮動利率借款的利率普遍上漲／下調100個基點，其他所有變量保持不變，本集團的稅後利潤將增長／下降及累計虧損則將增長／下降約為人民幣128,000元(2020年：稅後利潤將減少／增加及累計損失將增加／減少約為人民幣727,000元)。合併權益的其他組成部份不會受到利率上漲／下調的影響。

做出上述敏感度分析的假設條件是利率變化發生在報告期末且套用於當日存在的非衍生金融工具的利率風險的敞口。對本集團稅後虧損(及累計虧損)及合併權益其他組成部份的影響是根據此利率變化對利息費用或收入的年化影響而估計的。

估計的100個基點上漲／下調，是管理層對利率至下一年度財務狀況表日期間可能發生的利率變化作出的合理評估。與2020年分析方法相同。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

### 42. FINANCIAL RISK MANAGEMENT AND FAIR VALUES (CONTINUED) 42. 財務風險管理及公允價值(續)

#### (d) Currency risk

The Group is exposed to currency risk primarily through sales and purchases which give rise to receivables and payables, as well as borrowings and cash at bank and in hand that are denominated in a foreign currency, i.e. a currency other than the functional currency of the operations to which the transactions relate. The currencies giving rise to this risk are primarily USD and HKD.

#### (i) *Recognised assets and liabilities*

The Group is exposed to currency risk primarily arising from cash at bank, receivables, payables and borrowings which are denominated in USD or HKD. Depreciation or appreciation of these foreign currencies against RMB would affect the financial position and operating results of the Group. The Group did not hedge its foreign currency exposure.

RMB is not a freely convertible currency and the PRC government may at its discretion restrict access to foreign currencies for current account transactions in the future. Changes in the foreign exchange control system may prevent the Group from satisfying sufficient foreign currency demands and the Group may not be able to pay dividends in foreign currencies to its equity shareholders.

#### (d) 貨幣風險

本集團的貨幣風險主要為採用外幣(即與交易相關的業務自功能性幣種不同的其他貨幣)計價的來源於銷售及購買活動產生的應收款項及應付款項，以及借款及銀行存款及庫存現金。與該風險相關的幣種主要包括美元及港幣。

#### (i) *已確認資產及負債*

本集團的貨幣風險主要來源於採用美元或港幣計價的銀行存款、應收款項、應付款項及借款。此等外幣相對於人民幣的貶值或升值均會影響到本集團的財務狀況及經營業績。本集團未對沖外幣風險。

人民幣並非自由兌換貨幣，中國政府可自行決定將來限制來往帳戶交易採用的外幣。關於外匯控制制度的變化，可能妨礙本集團滿足對外幣的需求，本集團可能無法採用外幣向股東支付股息。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

### 42. FINANCIAL RISK MANAGEMENT AND FAIR VALUES (CONTINUED) 42. 財務風險管理及公允價值(續)

#### (d) Currency risk (Continued)

##### (ii) Exposure to currency risk

The following table details the Group's exposure at the end of the reporting period to currency risk arising from recognised assets or liabilities denominated in a currency other than the functional currency of the entity to which they relate. For presentation purposes, the amounts of the exposure are shown in RMB, translated using the spot rate at the end of the reporting period. Differences resulting from the translation of the financial statements of foreign operations into the Group's presentation currency are excluded.

		2021		2020	
		USD 美元 RMB'000 人民幣千元	HKD 港幣 RMB'000 人民幣千元	USD 美元 RMB'000 人民幣千元	HKD 港幣 RMB'000 人民幣千元
Cash at bank and in hand	銀行存款及庫存現金	88,496	52,283	93,374	57,352
Trade receivables	應收賬款	-	-	23,703	-
Net exposure	淨敞口	88,496	52,283	117,077	57,352

##### (iii) Sensitivity analysis

The following are the related foreign currency exchange rates to RMB during the year:

		2021		2020	
		Average rate 平均匯率 RMB'000 人民幣千元	Reporting date spot rate 報告日 現匯匯率 RMB'000 人民幣千元	Average rate 平均匯率 RMB'000 人民幣千元	Reporting date spot rate 報告日 現匯匯率 RMB'000 人民幣千元
USD	美元	6.4503	6.3757	6.7506	6.5249
HKD	港幣	0.8296	0.8176	0.8687	0.8416

#### (d) 貨幣風險(續)

##### (ii) 貨幣風險敞口

採用實體相關功能貨幣以外的其他幣種計價的確認資產或負債，使本集團及於報告期末承受的貨幣風險在下表中詳細列出。為陳述之目的，採用報告期末的現匯匯率折算為人民幣來列示貨幣風險。未包括將境外業務的財務報表轉換成本集團報告貨幣所產生的差額。

##### (iii) 敏感度分析

下表列出了本年度相關外幣與人民幣之間的匯率：



## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

### 42. FINANCIAL RISK MANAGEMENT AND FAIR VALUES (CONTINUED)      42. 財務風險管理及公允價值(續)

#### (d) Currency risk (Continued)

##### (iii) Sensitivity analysis (Continued)

A 5% strengthening of RMB against the following currencies would result in exchange losses by the amounts as shown below. Other components of equity would not be affected by the strengthening of RMB against foreign currencies.

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
USD	美元	(3,410)	(4,975)
HKD	港幣	(2,177)	(2,275)
		<b>(5,587)</b>	(7,250)

A 5% weakening of RMB against the above currencies would have had the equal but opposite effect on the above currencies to the amounts shown above, on the basis that all other variables remain constant.

The sensitivity analysis has been determined assuming that the change in foreign exchange rates had occurred at the end of the reporting period and had been applied to the Group's exposure to currency risk for financial instruments in existence at that date, and that all other variables, in particular interest rates, remain constant.

The stated changes represent management's assessment of reasonably possible changes in foreign exchange rates over the period until the following annual date of the statement of financial position. The analysis is performed on the same basis for 2020.

#### (d) 貨幣風險(續)

##### (iii) 敏感度分析(續)

人民幣對如下貨幣5%的升值，匯兌損失如下表所列。權益的其他組成部份不會受到人民幣相對於外幣升值的影響。

人民幣相對於上述貨幣5%的貶值，如果所有其他變量保持不變，則對上述貨幣產生相同但相反的影響，影響金額如上表所列。

做出上述敏感度分析的假設條件是，匯率變化發生在報告期末且套用於當日存在的金融工具的貨幣風險敞口，且所有其他變量保持不變，尤其是利率未發生變化。

所陳述的匯率波動情況是管理層對至下一財務報表日期間可能發生的匯率變化的合理評估。分析方法同2020年的分析方法相同。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

### 42. FINANCIAL RISK MANAGEMENT AND FAIR VALUES (CONTINUED) 42. 財務風險管理及公允價值(續)

#### (e) Fair value measurement

##### (i) Financial assets and liabilities measured at fair value

###### Fair value hierarchy

The following table presents the fair value of the Group's financial instruments measured at the end of the reporting period on a recurring basis, categorised into the three-level fair value hierarchy as defined in IFRS 13 Fair Value Measurement. The level into which a fair value measurement is classified is determined with reference to the observability and significance of the inputs used in the valuation techniques as follows:

- Level 1 valuation: Fair value measured using only Level 1 inputs, i.e., unadjusted quoted prices in active markets for identical assets or liabilities at the measurement date
- Level 2 valuation: Fair value measured using Level 2 inputs, i.e., observable inputs which fail to meet Level 1, and not using significant unobservable inputs. Unobservable inputs are inputs for which market data are not available
- Level 3 valuation: Fair value measured using significant unobservable inputs

The Group has the financial manager performing valuations for the financial instruments, including the unlisted equity securities. The financial manager reports directly to the chief financial officer and the audit committee. A valuation report with analysis of changes in fair value measurement is prepared by the financial manager at each interim and annual reporting date and is reviewed and approved by the chief financial officer. To coincide with the reporting dates, the financial manager holds discussion about the valuation process and results with the chief financial officer and the audit committee twice a year.

#### (e) 公允價值計量

##### (i) 按公允價值計量的金融資產及負債

###### 公允價值層級

下表呈列本集團於報告期末按經常基準所計量的金融工具公允價值。該等金融工具已歸入國際財務報告準則第13號「公允價值計量」所界定的三個公允價值層級。本集團參照以下估值方法所採用的輸入值的可觀察程度和重要性，從而釐定公允價值計量數值所應歸屬的層級：

- 第1層級估值：僅使用1級輸入數據進行計量的公允價值，即計量之日相同資產或負債的活躍市場中未經調整的報價
- 第2層級估值：使用2級輸入數據進行計量的公允價值，即不符合1級要求且未使用不可觀察的重要輸入數據的可觀察輸入數據。不可觀察輸入數據是不存在市場數據的輸入數據
- 第3層級估值：使用不可觀察的重要輸入數據進行計量的公允價值

本集團的財務經理負責對金融工具(包括非上市權益證券)進行估值。該財務經理直接向總會計師和審計委員會匯報。該財務經理負責於在各中期及年度報告日期編備內載公允價值計量變動分析的估值報告，以供總會計師審批。該財務經理為配合以上報告日期，與總會計師及審計委員會一年兩次商討估值程序和結果。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

### 42. FINANCIAL RISK MANAGEMENT AND FAIR VALUES (CONTINUED)      42. 財務風險管理及公允價值(續)

#### (e) Fair value measurement (Continued)

##### (i) Financial assets and liabilities measured at fair value (Continued)

Fair value hierarchy (Continued)

The following table presents the financial instruments of the Group that are measured at fair value as at 31 December 2021:

#### (e) 公允價值計量(續)

##### (i) 按公允價值計量的金融資產及負債(續)

公允價值層級(續)

下表列示於2021年12月31日本集團按公允價值計量的金融工具：

		Fair value at 31 December 2021 於2021年 12月31日的 公允價值 RMB'000 人民幣千元	Fair value measurements as at 31 December 2021 categorised into 於2021年12月31日歸屬以下層級公允價值計量數值		
			Level 1 第一級 RMB'000 人民幣千元	Level 2 第二級 RMB'000 人民幣千元	Level 3 第三級 RMB'000 人民幣千元
Financial assets:	金融資產：				
Bills receivable	應收票據	1,404,773	-	1,404,773	-
Equity investments in a listed company	對上市公司的其他權益投資	2,100,038	2,100,038	-	-
Equity investments in unlisted companies	對非上市公司的其他權益投資	189,674	-	-	189,674

		Fair value at 31 December 2020 於2020年 12月31日的 公允價值 RMB'000 人民幣千元	Fair value measurements as at 31 December 2020 categorised into 於2020年12月31日歸屬以下層級公允價值計量數值		
			Level 1 第一級 RMB'000 人民幣千元	Level 2 第二級 RMB'000 人民幣千元	Level 3 第三級 RMB'000 人民幣千元
Financial assets:	金融資產：				
Bills receivable	應收票據	1,953,438	-	1,953,438	-
Equity investments in a listed company	對上市公司的其他權益投資	1,970,244	1,970,244	-	-
Equity investments in unlisted companies	對非上市公司的其他權益投資	257,429	-	-	257,429

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

### 42. FINANCIAL RISK MANAGEMENT AND FAIR VALUES (CONTINUED) 42. 財務風險管理及公允價值(續)

#### (e) Fair value measurement (Continued)

##### (i) *Financial assets and liabilities measured at fair value (Continued)*

Fair value hierarchy (Continued)

As at 31 December 2021 and 2020, there were no transfers between Level 1 and Level 2, or transfers into or out of Level 3.

The fair values of bills receivable were measured using the discounted cash flows model. The significant observable input used when measuring the fair values of bills receivable is the benchmark interest rate for loans due within one year.

The fair values of unlisted equity investments designated at fair value through other comprehensive income have been estimated using a market-based valuation technique based on assumptions that are not supported by observable market prices or rates. The valuation requires the directors to determine comparable public companies (peers) based on industry, size, leverage and strategy, and calculates an appropriate price multiple, such as the price/earnings (“P/E”) multiple, price/book value (“P/B”) multiple, enterprise value to earnings before interest, tax depreciation and amortisation (“EV/EBITDA”) multiple of comparable listed companies adjusted for lack of marketability discount. For the year ended 31 December 2021, the P/B multiple was 1.0 to 1.1 (31 December 2020: 1.1). The EV/EBITDA multiple used for the year ended 31 December 2020 was 10.7 while such multiple was not applicable for the year ended 31 December 2021 when making valuation. The discount rates for lack of marketability were 23% to 29% (31 December 2020: 30%). The fair value measurement is positively correlated to the above multiples and negatively correlated to the discount for lack of marketability.

#### (e) 公允價值計量(續)

##### (i) 按公允價值計量的金融資產及負債(續)

公允價值層級(續)

於截至2020年及2021年12月31日，本集團未發生第1、2層級之間的轉換，或轉入或由第3層級轉出。

應收票據公允價值使用貼現現金流量模型計量。在計量應收票據公允價值時使用的重要可觀察輸入值為一年期貸款的基準利率。

基於無法取得可觀察的市場價格或比率的假設，以公允價值計量且其變動計入其他綜合收益的非上市權益工具的公允價值採用市場可比較企業法。該估值方法需要由董事基於行業、規模、槓桿及策略確定可比較上市企業，並計算一個合理的價格乘數，例如市場價格與盈利的比率(「市盈率」)，價格與賬面值的比率(「市淨率」)，企業價值與利息、稅費、折舊與攤銷之前與利潤的比率(「企業價值與息稅攤折前利潤率」)進行確定，並根據就缺乏市場流通性的折讓進行調整。截至2021年12月31日止12個月期間，市淨率為1.0至1.1(2020年：1.1)。2021年12月31日，企業價值與息稅攤折前利潤率不適用(2020年：10.7)。缺乏市場流通性折讓為23%至29%(2020年：30%)。由於缺乏適銷性，公允價值計量與上述倍數呈正相關，與折價呈負相關。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

### 42. FINANCIAL RISK MANAGEMENT AND FAIR VALUES (CONTINUED) 42. 財務風險管理及公允價值(續)

#### (e) Fair value measurement (Continued)

##### (i) Financial assets and liabilities measured at fair value (Continued)

		2021 RMB'000 人民幣千元	2020 RMB'000 人民幣千元
Unlisted equity securities At 1 January	非上市股本證券 1月1日	257,429	347,062
Changes in fair value recognised in other comprehensive income	在其他綜合收益中確認的 公允價值變動	(17,032)	(89,633)
Disposals	處置	(50,723)	-
At 31 December	於12月31日	189,674	257,429

#### (e) 公允價值計量(續)

##### (i) 按公允價值計量的金融資產及負債(續)

##### (ii) Financial assets and liabilities measured at other than the fair value

The carrying amounts of the Group's financial instruments carried at cost or amortised cost were not materially different from their fair values as at 31 December 2021 and 31 December 2020 except for the following financial instruments, for which their carrying amounts and fair values are disclosed below:

##### (ii) 非按公允價值計量的金融資產及負債

按成本或攤餘成本入賬的本集團金融工具的賬面金額與其於2021年12月31日和2020年12月31日的數值並無重大差異，唯以下各項金融工具外，該等金融工具的賬面金額及公允價值披露如下：

		At 31 December 2021 於2021年12月31日		At 31 December 2020 於2020年12月31日	
		Carrying amount 賬面金額 RMB'000 人民幣千元	Fair value 公允價值 RMB'000 人民幣千元	Carrying amount 賬面金額 RMB'000 人民幣千元	Fair value 公允價值 RMB'000 人民幣千元
Fixed rate long-term bank loans and other loans	固定利率長期銀行貸款及 其他貸款	1,169,316	1,033,311	1,171,144	1,092,653
Private placement notes and corporate bonds	私募債券和公司債券	3,958,160	3,943,553	4,958,421	4,942,269

The fair value measurement of the above financial instruments were categorized into Level 2 and the fair value was measured using the discounted cash flows model. The significant observable inputs used when measuring the fair values are the benchmark interest rates for the loans with the same period as that of People's Bank of China.

上述金融工具的公允價值計量被分為第二層級，公允價值使用貼現現金流模型來衡量。中國人民銀行同期貸款基準利率是衡量公允價值的重要可觀測輸入。

## NOTES TO FINANCIAL STATEMENT (CONTINUED)

### 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

#### 43. COMMITMENTS

The Group had the following capital commitments at the end of the reporting period:

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
Contracted but not provided for	已訂約但未撥備予：	<b>368,589</b>	152,027
Property, plant and equipment	物業、廠房及設備		
Capital contributions payable to associates	應付聯營公司的出資	<b>45,352</b>	21,200
		<b>413,941</b>	173,227

#### 44. CONTINGENT LIABILITIES

##### (a) Guarantees issued

At 31 December 2021, the Group provided bid and performance guarantees to customers for construction contracts and sales of products as follows:

		At 31 December 2021 <i>RMB'000</i> 人民幣千元	At 31 December 2020 <i>RMB'000</i> 人民幣千元
Bid guarantees provided to:	向如下公司提供的投標擔保：		
– third parties	– 第三方	–	500
Performance guarantees provided to:	向如下公司提供的履約擔保：		
– related parties under China Energy	– 國家能源集團下屬的關聯方	<b>495,535</b>	1,054,062
– third parties	– 第三方	<b>218,077</b>	465,897
		<b>713,612</b>	1,520,459

##### (b) Litigation contingencies

The Group is the defendant in certain lawsuits as well as the plaintiff in other proceedings arising in the ordinary course of business.

While the outcomes of the above contingencies lawsuits or other proceedings cannot be determined at present, management believes that the results will not have a material adverse effect on the financial position, operating results and business of the Group. No provision has been recognised by the Group for these claims.

#### 43. 承擔

(a) 於報告期末本集團資本承擔如下所述：

#### 44. 或有負債

##### (a) 擔保款項

於2021年12月31日，本集團關於建造合同和銷售產品而向客戶作出的投標及履約擔保如下所述：

##### (b) 訴訟或有事項

本集團是某些法律訴訟的被告，也是產生於日常經營過程中的其他訴訟程序的原告。

雖然上述或有事項，訴訟或其他法律程序的結果目前仍無法確定，但管理層相信任何因此產生的結果不會對本集團的財務狀況，經營業績及業務產生重大不利影響。本集團未因此索賠確認預計負債。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

### 45. MATERIAL RELATED PARTY TRANSACTIONS

### 45. 重大關聯方交易

#### (a) Transactions with related parties

The Group is part of a larger group of companies under China Energy and has significant transactions and relationships with China Energy and related parties under China Energy.

Principal transactions which were carried out in the ordinary course of business are as follows:

#### (a) 與關聯方的交易

本集團是國家能源集團的眾多公司的一部份，與國家能源集團及國家能源集團下屬的關聯方之間具有重大交易量及重要關係。

在正常業務過程中與關聯方的其他主要交易如下所述：

		2021	2020
		RMB'000	RMB'000
		人民幣千元	人民幣千元
<i>Sales of goods to</i>	<i>出售商品予</i>		
– China Energy	– 國家能源集團	8,739	13,673
– related parties under China Energy	– 國家能源集團下屬的關聯方	1,843,995	5,043,867
– associates	– 聯營公司	62,362	19,238
<i>Construction services provided to</i>	<i>提供建造服務予</i>		
– related parties under China Energy	– 國家能源集團下屬的關聯方	4,874,641	6,159,804
– associates	– 聯營公司	72,939	527
<i>Services provided to</i>	<i>提供服務於</i>		
– China Energy	– 國家能源集團	–	1,149
– related parties under China Energy	– 國家能源集團下屬的關聯方	740,956	737,005
– associates	– 聯營公司	11,969	–
<i>Leases to</i>	<i>出租予</i>		
– related parties under China Energy	– 國家能源集團下屬的關聯方	644,779	577,295
– associates	– 聯營公司	5,886	–
<i>Leases from</i>	<i>授租自</i>		
– related parties under China Energy	– 國家能源集團下屬的關聯方	7,967	11,581
<i>Purchases of goods from</i>	<i>購買商品自</i>		
– related parties under China Energy	– 國家能源集團下屬的關聯方	491,420	370,040
– associates	– 聯營公司	119,291	4,034
<i>Services provided by</i>	<i>服務提供自</i>		
– related parties under China Energy	– 國家能源集團下屬的關聯方	174,357	148,861
– associates	– 聯營公司	–	4,786
<i>Interest expenses</i>	<i>利息費用</i>		
– China Energy	– 國家能源集團	–	15,319
– related parties under China Energy	– 國家能源集團下屬的關聯方	19,872	19,084
<i>Interest income</i>	<i>利息收入</i>		
– related parties under China Energy	– 國家能源集團下屬的關聯方	4,268	4,667

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

### 45. MATERIAL RELATED PARTY TRANSACTIONS 45. 重大關聯方交易(續) (CONTINUED)

#### (a) Transactions with related parties (Continued)

#### (a) 與關聯方的交易(續)

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
<i>Working capital provided to</i>	<i>提供週轉資金予</i>		
– associates	– 聯營公司	300	15,000
<i>Working capital repaid from</i>	<i>償還週轉資金自</i>		
– associates	– 聯營公司	–	11,000
<i>Loans received from</i>	<i>貸款借取自</i>		
– China Energy	– 國家能源集團	600,000	600,000
– related parties under China Energy	– 國家能源集團下屬的關聯方	2,235,000	1,470,000
<i>Loans repaid to</i>	<i>償還貸款於</i>		
– China Energy	– 國家能源集團	600,000	600,000
– related parties under China Energy	– 國家能源集團下屬的關聯方	1,930,000	1,930,000
<i>Net deposits change in</i>	<i>存款變動淨額</i>		
– related parties under China Energy	– 國家能源集團下屬的關聯方	(374,511)	1,315,565
<i>Dividends received from</i>	<i>收取股息自</i>		
– related parties under China Energy	– 國家能源集團下屬的關聯方	3,577	39,676
– associates	– 聯營公司	67,247	54,430



## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

### 45. MATERIAL RELATED PARTY TRANSACTIONS (CONTINUED) 45. 重大關聯方交易(續)

#### (b) Outstanding balances, including commitment, with related parties

Details of the outstanding balances with related parties are set out in Notes 17, 23, 25, 26, 27, 29, 30, 31, 32 and 33.

#### (c) Contributions to defined contribution retirement plans

The Group participates in various defined contribution retirement plans organised by relevant local government authorities and China Energy for its staff. As at 31 December 2021, there was no material outstanding contribution to post-employment benefit plans. Details of the defined contribution retirement plans are set out in Note 10(a) to the financial statements.

#### (d) Transactions with other government-related entities in the PRC

The Group operates in an economic regime currently dominated by entities directly or indirectly controlled, jointly controlled or significantly influenced by the PRC government and numerous government authorities and agencies (collectively referred to as “**government-related entities**”). China Energy, the parent and ultimate holding company of the Company, is a PRC state-owned enterprise and these government-related entities are also considered as related parties of the Group in this respect.

Apart from transactions with China Energy and related parties under China Energy mentioned above, the Group conducts a majority of its business activities with other government-related entities in the ordinary course of business. These transactions are carried out at terms similar to those that would be entered into with non-government-related entities.

#### (b) 與關聯方的餘額、包括約定

附註17, 23, 25, 26, 27, 29, 30, 31, 32與33對關聯方的餘額進行了詳細說明。

#### (c) 界定供款退休計劃的供款

本集團參加了相關政府機構及國家能源集團內部組織的各種界定供款退休計劃。於2021年12月31日，在退休福利計劃項下，沒有重大未支付供款。財務報表附註10(a)對界定供款退休計劃進行了詳細說明。

#### (d) 與中國其他政府相關實體之間的交易

在本集團目前從業的經濟體制之下，主導企業是由中國政府及各種政府機關及機構直接或間接控制、聯合控制或重大影響的實體(合稱為「**政府相關實體**」)。國家能源集團(本公司的母公司及最終控股公司)是中國的國有企業，此等政府相關實體因此也視為本集團的關聯方。

除上述與國家能源集團及其下屬關聯方之間的交易之外，在正常業務過程中，本集團大部份業務活動是與其他政府相關實體交易的。此等交易的執行條款與非政府相關實體的交易條款相似。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

### 45. MATERIAL RELATED PARTY TRANSACTIONS (CONTINUED) 45. 重大關聯方交易(續)

#### (d) Transactions with other government-related entities in the PRC (Continued)

The Group prices its services and products based on the commercial negotiations. The Group has also established its approval process for the sale of goods, provision of services, purchases of products and services and its financing policy for borrowings. Such approval process and financing policy do not depend on whether the counterparties are government-related entities or not.

Having considered the potential for transactions to be impacted by related party relationships, the Group's approval processes and financing policy, and what information would be necessary for an understanding of the potential effect of the relationship on these financial statements, the directors of the Company are of the opinion that further information about the following transactions that are collectively significant is required for disclosure:

#### – **Sale of goods and provision of construction services**

The Group sells its goods and provides construction services to a wide range of government-related power companies and manufacturing enterprises.

#### – **Deposits and borrowings**

The Group deposits most of its cash in government-related financial institutions, and also obtains short-term and long-term loans from these financial institutions in the ordinary course of business. The interest rates of the bank deposits and loans are regulated by the People's Bank of China.

#### – **Purchases of materials and receiving construction services**

The Group purchases materials and receives construction services from a wide range of government-related manufacturing enterprises and construction contractors.

#### (d) 與中國其他政府相關實體之間的交易(續)

本集團根據市場談判條件對服務及產品定價。關於貨物銷售、服務提供、產品及服務的購買，本集團已建立了審批程序，並建立了關於借款方面的融資政策。此類審批程序及融資政策並不考慮交易對方是否是政府相關實體。

考慮到關聯方關係對交易的潛在影響、本集團的審批程序以及融資政策，以及為了解關聯關係對財務報表的潛在影響而需要的信息，本公司董事們認為，對於具有整體重大意義的如下交易，需要披露進一步的詳細資料：

#### – **貨物銷售及施工服務的提供**

本集團向各種政府相關電力公司及製造企業銷售貨物並提供建造服務。

#### – **存款及借款**

本集團的大部份現金存於政府相關的金融機構，且在正常業務過程中也從此類金融機構獲取短期及長期貸款。銀行存款及貸款利率由中國人民銀行制定。

#### – **材料購買及獲得建造服務**

本集團向各種政府相關製造企業購買材料並向各種政府相關建造承包商獲取建造服務。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

### 45. MATERIAL RELATED PARTY TRANSACTIONS (CONTINUED)      45. 重大關聯方交易(續)

#### (d) Transactions with other government-related entities in the PRC (Continued)

##### – Service concession arrangements

The Group entered into two service concession agreements with local governments to construct and operate water treatment plants during the concession period. All transactions under the service concession arrangements were made with local governments and carried out at terms set out in the respective service concession arrangements.

#### (e) Key management personnel remuneration

Key management personnel are those persons holding positions with authority and responsibility for planning, directing and controlling the activities of the Group, directly or indirectly, including the Company's directors.

Remuneration for key management personnel, including amounts paid to the Company's directors as disclosed in Note 12 to the financial statements is as follows:

		2021 <i>RMB'000</i> 人民幣千元	2020 <i>RMB'000</i> 人民幣千元
Salaries and other emoluments	工資及其他薪金	6,144	5,033
Discretionary bonus	酌情花紅	1,487	1,616
Retirement scheme contributions	退休計劃供款	809	616
		<b>8,440</b>	7,265

#### (d) 與中國其他政府相關實體之間的交易(續)

##### – 服務特許權安排

本集團已與當地政府簽訂了2項特許權服務協議，在特許期限之內，負責建設以及經營污水處理廠。服務特許權協議項下的所有交易均是與地方政府作出的，且在各自的特許權安排中規定了交易執行條款。

#### (e) 主要管理人員薪酬

主要管理人員指對其所處職位具有權力與責任、可直接或間接地規劃、領導以及控制本集團的活動的個人，包括本公司的董事們。

關於主要管理人員的薪酬如下，包括財務報表附註12中披露的支付給本公司董事們的金額：

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

### 45. MATERIAL RELATED PARTY TRANSACTIONS (CONTINUED)

#### (f) Applicability of the Listing Rules relating to connected transactions

The related party transactions with China Energy and related parties under China Energy in respect of the sale and purchase of goods, the provision and receipt of services, the lease and the deposits placed with China Energy Finance Co., Ltd., as disclosed in Note 45(a), constitute connected transactions or continuing connected transactions as defined in Chapter 14A of the Listing Rules. The disclosures required by Chapter 14A of the Listing Rules are provided in the section "Connected transactions" of the Director's Report of the Group for the year ended 31 December 2021.

### 46. SERVICE CONCESSION ARRANGEMENT

The Group entered into a number of service concession agreements with local governments (the "Grantors") to construct and operate water treatment plants during the concession period, which is normally for 30 years of operation. The Group is responsible for construction and operation of water treatment plants during the concession period. At the end of the concession period, the Group needs to transfer water treatment plants to the Grantors at nil consideration. With respect to these service concession arrangements, the Group has evaluated and assessed that these arrangements fall under the scope of IFRIC 12, Service Concession Arrangements ("IFRIC 12").

In accordance with IFRIC 12, the Group accounts for the revenue and costs relating to construction services in accordance with the accounting policy set out in Note 2(y) to the financial statements. The consideration received or receivables in exchange for the construction services is recognised as a financial asset for an unconditional contractual right to receive cash or another financial asset from or at the direction of the Grantor for the construction services and/or an intangible asset for a right or a licence to charge users of the water treatment service.

The Group has recognised intangible assets (Note 18) and service concession receivables (Note 23) related to the service concession arrangement representing the right the Group received to charge a fee for water treatment or sale of reclaimed water and the guaranteed minimum payment during the operating period of the water treatment plants respectively.

### 45. 重大關聯方交易(續)

#### (f) 與關連交易有關的上市規則的適用性

如附註45(a)所示，與國家能源集團及其下屬關聯方在貨物買賣、提供和接受服務、租賃以及存放在國家能源集團財務有限公司和國電財務有限公司的款項等方面的關聯方交易構成《上市規則》第14A章所定義的關連交易或持續關連交易。《上市規則》第14A章要求披露的信息，見本集團2021年12月31日董事會報告的「關連交易」一節。

### 46. 服務特許權安排

本集團與地方政府(「授權方」)簽訂了多項服務特許權協定，在特許權期限之內，負責建設及營運水處理廠，該期限一般為30年。在特許權期限之內，本集團負責水處理廠的施工建設以及經營。特許權期滿之後，本集團需要以零對價將水處理廠轉讓給授權方。關於此等服務特許權安排，經本集團評估，此等安排符合《國際財務報告準則詮釋》第12號—「服務特許權安排」(「《國際財務報告準則詮釋》第12號」)。

根據《國際財務報告準則詮釋》第12號規定，本集團根據財務報表附註2(y)中陳述的會計政策處理建造服務相關的收入及成本。建造服務的已收或應收對價，就自授權方或按授權方的指示收取現金或其他金融資產的不附帶條件契約權確認為一項金融資產，和/或就向水處理服務之使用者收取費用的權利或許可確認為一項無形資產。

關於服務特許權安排，本集團已確認無形資產(附註18)及服務特許權應收款項(附註23)，分別表示本集團收取水處理費用或銷售中水的權利，以及水處理廠運營期間的保證最低付款額。

## NOTES TO FINANCIAL STATEMENT (CONTINUED)

### 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

#### 47. COMPANY-LEVEL STATEMENT OF FINANCIAL POSITION      47. 公司層面的財務狀況表

		2021 <i>RMB'000</i> 人民幣千元	2020 RMB'000 人民幣千元
<b>Non-current assets</b>	<b>非流動資產</b>		
Property, plant and equipment	物業、廠房及設備	<b>861,006</b>	916,367
Investment properties	投資性物業	<b>799,983</b>	822,586
Intangible assets	無形資產	<b>23,649</b>	18,896
Interests in subsidiaries	對附屬公司的投資	<b>2,992,370</b>	4,672,318
Interests in associates	對聯營公司的投資	<b>1,064,004</b>	89,600
Other equity investments	其他權益投資	<b>2,289,712</b>	2,225,924
Other non-current assets	其他非流動資產	<b>108</b>	-
<b>Total non-current assets</b>	<b>非流動資產總額</b>	<b>8,030,832</b>	8,745,691
<b>Current assets</b>	<b>流動資產</b>		
Inventories	存貨	<b>455</b>	435
Trade and bills receivables	應收賬款及票據	<b>294,259</b>	256,580
Deposits, prepayments and other receivables	按金、預付款項及其他應收款項	<b>2,367,310</b>	3,712,380
Cash at bank and in hand	銀行存款及庫存現金	<b>827,244</b>	279,311
<b>Total current assets</b>	<b>流動資產總額</b>	<b>3,489,268</b>	4,248,706
<b>Current liabilities</b>	<b>流動負債</b>		
Borrowings	借款	<b>3,717,063</b>	4,059,075
Trade and bills payables	應付賬款及票據	<b>45,237</b>	35,711
Other payables and accruals	其他應付款項	<b>102,009</b>	94,835
<b>Total current liabilities</b>	<b>流動負債總額</b>	<b>3,864,309</b>	4,189,621
<b>Net (current liability)/assets</b>	<b>流動(負債)/資產淨額</b>	<b>(375,041)</b>	59,085
<b>Total assets less current liabilities</b>	<b>資產總額減流動負債</b>	<b>7,655,791</b>	8,804,776
<b>Non-current liabilities</b>	<b>非流動負債</b>		
Borrowings	借款	<b>1,341,099</b>	3,769,346
Deferred tax liabilities	遞延所得稅負債	<b>418,306</b>	335,173
<b>Total non-current liabilities</b>	<b>非流動負債總額</b>	<b>1,759,405</b>	4,104,519
<b>NET ASSETS</b>	<b>資產淨額</b>	<b>5,896,386</b>	4,700,257
<b>CAPITAL AND RESERVES</b>	<b>資本及儲備</b>		
Share capital	股本	<b>6,063,770</b>	6,063,770
Reserves	儲備	<b>(167,384)</b>	(1,363,513)
<b>TOTAL EQUITY</b>	<b>權益總額</b>	<b>5,896,386</b>	4,700,257

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

### 48. SUBSEQUENT EVENT

On 24 January 2022, Beijing Chunhui Qingyun Technological and Environmental Corporation Limited (the “**Offeror**”), which is a wholly-owned subsidiary of China Energy incorporated in the PRC with limited liability, entered into the merger agreement (the “**Merger Agreement**”) with the Company. Pursuant to the Merger Agreement, the Offeror and the Company will implement the merger subject to the terms and conditions of the Merger Agreement, including the pre-conditions and the conditions. After the merger, the Company will be merged into and absorbed by the Offeror in accordance with the PRC Company Law and other applicable PRC Laws (the “**Pre-conditional Privatization**”).

Pursuant to the Merger Agreement, conditional upon the fulfilment (or waiver, as applicable) of the pre-conditions and the conditions, the Offeror will pay the cancellation price in the amount of HK\$1.08 per H share to the H shareholders for the cancellation of the H shares. China Energy will be issued with RMB0.8793576 registered capital of the Offeror for each domestic share. Guodian Power will receive the consideration for the cancellation of its domestic shares in the same way as China Energy as described above.

China Energy, Guodian Power and the Offeror would enter into the operating agreement to document the parties' agreement to the issue of the Offeror's registered capital to China Energy and Guodian Power for the cancellation of the domestic shares held by them. Upon completion of the cancellation of the shares and the issue of registered share capital in the Offeror to China Energy and Guodian Power, the Offeror would be held as to 60.81% by China Energy and 39.19% by Guodian Power.

### 48. 期後事項

於2022年1月24日，北京春暉青雲科技環保有限公司(「**要約人**」)，其是一家在中國註冊成立的有限責任公司，由國家能源集團全資擁有，其與本公司訂立合併協議(「**合併協議**」)。根據合併協議，要約人及本公司將根據合併協議的條款及條件(包括前提條件及該等條件)實施合併。合併後，本公司將根據中國公司法及其他適用中國法律被要約人吸收合併(「**附前提條件的私有化**」)。

根據合併協議，待前提條件及該等條件達成(或獲豁免，倘適用)後，要約人將就註銷H股而向H股股東支付每股H股1.08港元的註銷價。國家能源集團將就每股內資股獲發行人民幣0.8793576元的要約人註冊資本，國電電力可就註銷其內資股按上述與國家能源集團的相同方式收取對價。

國家能源集團、國電電力及要約人將訂立實施協議，以記錄各方同意要約人為註銷國家能源集團及國電電力持有的內資股而向國家能源集團及國電電力發行其註冊股本。完成註銷股份及向國家能源集團及國電電力發行要約人的註冊股本後，國家能源集團及國電電力將分別持有要約人60.81%及39.19%的股份。

## NOTES TO FINANCIAL STATEMENT (CONTINUED) 財務報表附註(續)

(Amounts expressed in RMB unless otherwise stated)  
(除非另有說明，以人民幣列示)

### 48. SUBSEQUENT EVENT (CONTINUED)

After the completion of the merger, the Offeror will assume all assets, liabilities, interests, businesses, employees, contracts and all other rights and obligations of the Company and the Company will be eventually deregistered.

Upon satisfaction of the pre-conditions and all the conditions to effectiveness, the Company will apply to the Stock Exchange for voluntary withdrawal of the listing of the H shares from the Stock Exchange pursuant to Rule 6.15 of the Listing Rules. According to the Code on Takeovers and Mergers published by the Securities and Futures Commission of Hong Kong, the composite document is expected to be despatched to H shareholders within seven days after the satisfaction of the pre-conditions. Up to the date of this report, the above mentioned Pre-conditional Privatization of the Company was still under processing.

### 49. APPROVAL OF THE FINANCIAL STATEMENTS

The consolidated financial statements were approved and authorised for issue by the board of directors on 29 March 2022.

### 48. 期後事項(續)

於合併完成後，要約人將承接本公司的所有資產、負債、權益、業務、僱員、合約以及所有其他權利及義務，而本公司最終將註銷登記。

於前提條件及所有生效條件達成後，本公司將根據上市規則第6.15條向聯交所申請自願撤銷H股於聯交所的上市地位。根據香港證監會發佈的收購守則的規定，綜合檔預期將於提條件達成後七日內寄發予H股股東。截止本報告日，上述提及的本公司之私有化事項尚未完成。

### 49. 批准財務報表

董事會於2022年3月29日批准及授權刊發合併財務報表。



国家能源集团  
CHN ENERGY

國電科技環保集團股份有限公司

GUODIAN TECHNOLOGY & ENVIRONMENT GROUP CORPORATION LIMITED\*

(於中華人民共和國註冊成立的股份有限公司)  
(a joint stock limited liability company incorporated in the People's Republic of China)

Stock Code 股份代號 : 01296  
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財務報告



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